

## WATER PERFORMANCE REPORT

Performance of Victorian urban water and sewerage businesses 2013-14

December 2014

### An appropriate citation for this paper is:

Essential Services Commission 2014, *Performance of Victorian urban water and sewerage businesses 2013-14*, December.

### OVERVIEW OF THIS YEAR'S REPORT

This is the tenth annual report published by the Commission on the performance of all the Victorian businesses that provide water, sewerage and related services to urban customers. The report covers 13 regional businesses, three metropolitan retailers and Melbourne Water for the 12 months to June 2014.<sup>1</sup>

In 2013-14, Victorian water businesses generally maintained or improved service levels. Water quality was high and water service reliability improved slightly, environmental performance was steady and customer service levels remained high with fewer customer complaints received by businesses. Based on the data in this performance report, and a separate review of the metropolitan businesses' hardship measures, we believe water businesses have improved their ability to identify and provide support to their customers in financial difficulty. Water businesses appeared to better differentiate customers who were unable to pay their bills from those customers who are unwilling to pay their bills. This was particularly evident for the metropolitan businesses, and allowed a more tailored approach with greater support for those in need of assistance. Tougher actions were focussed on recalcitrant customers including measures such as water supply restrictions and legal action.

As reported below, many capital works projects were delayed or deferred in 2013-14. It is only one year since the businesses identified these projects as important for implementation during the 2013–18 pricing period. While some rescheduling or reprioritisation of projects is expected as a normal part of running a water business, the number of projects affected is concerning. The Commission will continue to monitor and report on major project delivery over the period. We expect the rescheduling of

<sup>&</sup>lt;sup>1</sup> Many of the reported performance indicators do not apply to Melbourne Water, which provides bulk services to the retail businesses. In these instances, we report data for 16 businesses — the 13 regional businesses and the three metropolitan retailers.

project delivery will not produce a decline in service delivery standards, and that businesses will meet their service commitments. Further, if we find that project delays and deferrals are producing material windfall financial benefits for water businesses, we will consider whether their approved maximum prices need to be revisited in future years.

### HOUSEHOLD CONSUMPTION

Average annual household water consumption across Victoria fell 2 per cent from 163 kilolitres in 2012-13 to 160 kilolitres in 2013-14.

- Metropolitan annual consumption fell slightly from 152 kilolitres to 150 kilolitres.
- Regional annual consumption fell from 194 kilolitres per year to 187 kilolitres.

Overall, the average household consumption levels for most businesses either stayed steady or decreased slightly compared to the previous year.

Average consumption appears to have settled at a level slightly higher than during the drought (when restrictions were imposed), but well below historic levels before the drought when it was over 200 kilolitres per household.

#### HOUSEHOLD BILLS

Average annual household bills<sup>2</sup> were higher in 2013-14 than in 2012-13 for most water businesses, although six regional businesses had average bills lower than last year and another two recorded increases less than inflation. Metropolitan businesses reported the largest increases, primarily because prices now reflect the full desalination plant contract costs following the metropolitan price freeze in 2012-13. The average household bills for owner occupiers ranged across businesses from \$869 (Goulburn Valley Water) to \$1262 (GWMWater), with a statewide weighted average of \$1088.

<sup>&</sup>lt;sup>2</sup> The Commission uses each business's average household consumption to calculate an indicative average household bill for water and sewerage services. This figure includes both the fixed and variable water and sewerage charges.

Average household bills for tenants, who are not billed fixed charges, ranged from \$143 (Westernport Water, which has a high proportion of fixed charges to account for a low permanent customer base, and low average household consumption) to \$635 (Yarra Valley Water) in 2013-14.

### FINANCIAL ASSISTANCE AND DEALING WITH HARDSHIP

Generally water businesses have increased their support of customers experiencing payment difficulties, as measured across a range of activities.

In 2013-14, 12 of the 16 urban water businesses increased the number of residential customers on instalment plans. The overall rate across all water businesses increased from 6.3 per 100 customers in 2012-13 to 7.7 in 2013-14.

The number of hardship grants approved by water businesses rose to 18 065 in 2013-14, from 14 416 in 2012-13. The number of Utility Relief Grants approved by the government increased by 43 per cent from 4412 in 2012-13 to 6309 in 2013-14, and government concessions also increased.

In its last price decision, the Commission allowed an additional \$5.25 million for the metropolitan water businesses, including Western Water, to assist their customers with the significant price increase from July 2013. The Commission has released a separate report evaluating the effectiveness of this financial hardship allowance.<sup>3</sup> Based on the early trends in the data available, we are satisfied the businesses have targeted this money towards improving their hardship programs, and they are generally treating their customers experiencing hardship well. This report is available on the Commission's website.

<sup>&</sup>lt;sup>3</sup> Essential Services Commission 2014, Review of new hardship measures taken by metropolitan water businesses 2013-14, December.

### **PAYMENT MANAGEMENT**

As water businesses worked harder to identify customers in financial hardship, they also identified more nonpaying customers considered able to pay. Both Yarra Valley Water and South East Water claimed they could better differentiate those who face financial difficulty in paying their bills from those who won't pay but are able to do so. This allowed them to take a stronger stance against recalcitrant nonpaying customers, resulting in more water supply restrictions and legal actions against these customers. Together these two businesses accounted for the vast majority of increased actions against these customers in 2013-14.

The number of residential customers whose water supply was restricted for nonpayment rose by 36 per cent, from 2439 in 2012-13 to 3319 in 2013-14 (0.13 per cent of a total 2.3 million residential customers). Sixty per cent of the additional 880 restrictions were for Yarra Valley Water customers and 27 per cent for South East Water customers. This increase also included more customers on concession (up from 465 to 587). Over the same period, the number of nonresidential customers whose water supply was restricted rose 38 per cent.

Water businesses may take legal action as a last measure to recover unpaid bills. Legal actions against residential customers increased by 40 per cent from 811 in 2012-13 to 1135 in 2013-14, with 287 of the additional 324 (almost 90 per cent) being Yarra Valley Water customers. The average debt level before initiating legal proceedings increased by 56 per cent to \$2027, and is well above the regulated minimum of \$200.

### **CUSTOMER COMPLAINTS**

In 2013-14, the water businesses received 13 492 complaints, a 26 per cent decrease from the 18 202 complaints received in 2012-13. This result equates to a rate of 0.54 complaints per 100 customers across the state, down from 0.74 in 2012-13. (There was a large increase in complaints from metropolitan customers in 2011-12 and 2012-13 due to customer concerns about the overcollection of funds to pay for the desalination plant, although completion of the plant had been delayed.) The 2013-14

complaint rate is similar to the 0.57 complaints per 100 customers observed in 2010-11.

In 2013-14, the Energy and Water Ombudsman (Victoria) (EWOV) received 2559 complaints and 67 enquiries about the metropolitan and regional urban water businesses, up 16 per cent from 2198 complaints and 64 enquiries in 2012-13. The number of cases EWOV received regarding water businesses was only 3.5 per cent of the number dealing with energy retailers.<sup>4</sup>

### **NETWORK RELIABILITY**

Overall water supply reliability, measured by average customer minutes off supply, improved slightly from 30 minutes in 2012-13 to 29 minutes in 2013-14. The rate of interruptions to water supply also improved slightly to 37.5 interruptions per 100 kilometres of water main in 2013-14, from 37.9 interruptions in 2012-13.

The rate of sewer blockages deteriorated from 19.3 blockages per 100 kilometres of sewer main in 2012-13 to 21.6 in 2013-14. The rate of sewer spills also deteriorated, from 9.8 per 100 kilometres of sewer main in 2012-13 to 11.5 in 2013-14. However these changes are consistent with a hotter and drier summer in 2013-14 with increased tree root intrusion into the sewers.

<sup>&</sup>lt;sup>4</sup> In 2013-14, EWOV received 54 496 complaints and 664 enquiries for electricity retailers, and 19 833 complaints and 204 enquiries for gas retailers.

### **WATER QUALITY**

Fifteen of the 16 urban water businesses delivered water that met *E. coli* bacteriological requirements set out in the Safe Drinking Water Regulations 2005. Coliban Water recorded a noncompliance in one of its smaller towns.

All urban businesses delivered water that met the turbidity requirements set out in the Safe Drinking Water Regulations.

Water quality complaints fell from a rate of 0.29 complaints per 100 customers in 2012-13 to 0.26 in 2013-14, with decreases across most water businesses.

### **ENVIRONMENTAL PERFORMANCE**

Water businesses treated 475 500 megalitres of sewage in 2013-14. This result was a 1 per cent decrease from the 2012-13 volume of 479 500 megalitres.

The proportion of total effluent produced in Victoria that was reused remained steady at 20 per cent in 2013-14. Total effluent reuse was 90 600 megalitres in 2013-14.

Victorian urban water businesses reported 738 700 tonnes of total net carbon dioxide equivalent (CO<sub>2</sub>-e) emissions in 2013-14, a 3 per cent reduction from the 765 300 tonnes reported in 2012-13.

#### **MAJOR PROJECTS**

During the 2013–18 price review process, businesses were required to separately identify their key capital expenditure projects scheduled for completion during the period, to distinguish them from the many minor projects making up their capital investment programs. The Commission identified 100 of these major projects to be scheduled in the businesses' pricing determinations for monitoring through the annual performance reporting process. Project costs impact prices in accordance with the scheduled timelines. Twelve projects were completed on time, with another 49 proceeding on schedule. By contrast, 21 projects encountered delays that will affect the

completion time, and 18 projects were deferred (12 of these into the next pricing period from 2018).

Of these 100 projects, 16 were scheduled for completion in 2013-14 with nine completed, six delayed, one deferred, and three additional projects completed ahead of schedule.

In addition to these 100 scheduled projects, businesses carried 15 major projects over from the 2008–13 pricing period. Six were completed in 2013-14, six more are on schedule, two were delayed and one was deferred.

The Commission acknowledges that project schedules need to change with changing circumstances, but expects businesses will continue to meet their service level commitments, and will monitor that this is indeed the case.

### DESALINATION PAYMENT RETURN

Prices in 2011-12 and 2012-13 for Melbourne Water, and subsequently the metropolitan retailers and Western Water, reflected the costs of payments associated with the commissioning of the Wonthaggi desalination plant. However, the plant's completion was delayed and that share of prices attributed to the costs of the desalination plant were returned to customers — initially through a price freeze in 2012-13 and rebates on customer bills.<sup>5</sup>

In September 2013, the Commission engaged an auditor to review the return of unrequired desalination payments. The auditor found \$7.3 million (2.5 per cent of the total) was yet to be returned. We are satisfied businesses have since returned the final amount to customers, mainly by reducing prices below the maximum allowed under our price determinations. We have verified this to be the case by reviewing billing data provided to us by businesses, including copies of customer bills.

More information is available on the Commission's website at http://www.esc.vic.gov.au/Water/Return-of-the-Desalination-Over-Collection

### THIS REPORT

The 2013-14 performance report can be used to inform community discussion, to identify shifts in performance outcomes, and to stimulate 'competition by comparison' between the water businesses. For many key indicators, time series data (in graphical form) makes it easy to identify performance trends for each business, as well as to compare performance across the industry as a whole.

The results show considerable variation can occur across businesses for a given performance indicator. This is to be expected given the diversity in operational conditions across the state, including each business's particular customer-base size and makeup, climate, location and geography. However, the Commission expects that businesses would consider how their own performance compares with the best performers in a particular category, and how they might improve their own performance.

Where statewide averages are discussed in the report, a weighted average is calculated to reflect the size of the various water businesses and their relative contribution to the overall average.

### More detailed information is available on our website

As well as this performance report, there is a summary for each business, an industry summary, and data spreadsheets for those who wish to interrogate the data further. These documents are available on our website at www.esc.vic.gov.au

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### 1 WHY WE DO THIS

### 1.1 THE COMMISSION'S ROLE

The Essential Services Commission (the Commission) is the economic regulator of the Victorian water sector. One of its regulatory functions is to monitor and to report publicly on the performance of Victorian water businesses.

Monitoring and reporting is important because it provides reliable and consistent information that can be used to:

- inform customers about the performance of their water business
- identify base line performance and provide incentives for water businesses to improve their own performance over time
- compare water businesses and thereby facilitate competition by comparison, which can encourage water businesses to further improve their performance relative to others
- inform the decision making processes of regulated water businesses, regulatory agencies and Government.

This 2013-14 report is the Commission's tenth annual report on the performance of all Victorian urban water businesses, which commenced for the 2004-05 period. Performance reporting between 1995 and 2004 was done for the three metropolitan water retailers only.

Performance reports assess the performance of:

- the three metropolitan retailers City West Water, South East Water and Yarra Valley Water
- the 13 regional urban businesses Barwon Water, Central Highlands Water,
   Coliban Water, East Gippsland Water, Gippsland Water, Goulburn Valley Water,
   Grampians Wimmera Mallee Water (GWMWater), Lower Murray Water, North East

Water, South Gippsland Water, Wannon Water, Western Water and Westernport Water

 Melbourne Water — the supplier of bulk water and sewerage services to the metropolitan retailers (and a number of regional water businesses).

This report covers the businesses' performance over the 2013-14 financial year across key performance indicators that were developed in consultation with the businesses and a range of other stakeholders. The data provided by the businesses was independently audited to provide assurance it is accurate and reliable. Water businesses were invited to comment on various aspects of their performance, and these comments are incorporated into the report.

### 1.2 THE SCOPE OF THIS REPORT

This report focuses on performance indicators in a number of key areas for urban water businesses including:

- usage, price trends and payment management including the size of household bills, consumption levels, and managing nonpayment of bills and customers facing hardship
- customer responsiveness and service including customer complaints and call centre performance
- network reliability including the reliability, responsiveness to faults and interruptions around water and sewer systems
- water quality including drinking water quality and associated complaints
- conservation and the environment including levels of effluent and biosolids reuse and recycling, and greenhouse gas emissions
- historical performance including comparisons for all indicators and businesses with previous years' data
- major project status summary report on the status of those major projects scheduled for completion during the 2013–18 pricing period.

This report does not include information on the rural water businesses that supply irrigation, drainage, diversion, storage operator and bulk water services.

# 1.3 THE COMMISSION'S ROLE IN REGULATING SERVICE STANDARDS

The Commission is responsible for regulating service standards and conditions of supply. In the urban sector, the framework comprises:

- A Customer Service Code (the Code) that imposes a consistent overarching framework for delivering services to both metropolitan and regional urban customers. The Code sets out service obligations for key matters including connection and service provision, charges, handling complaints and disputes, billing, payment of bills, collection of outstanding bills, actions for nonpayment including restriction of supply or disconnection, quality of supply, reliability of supply, meters, works and maintenance, and information and administrative arrangements for guaranteed service levels. The Code is available on our website at www.esc.vic.gov.au
- A separate Trade Waste Customer Service Code that establishes consistent trade waste management requirements for water businesses across Victoria.
- Flexibility for the businesses to propose their own service levels or targets, rather than having to meet a consistent performance standard across businesses. This flexibility recognises the different operating environments each business faces and allows customers to express their preferences about the level of service for which they are prepared to pay. These service targets provide an important reference point for monitoring performance over the pricing period.
- A requirement each business maintain a Customer Charter that informs customers about its services, the respective rights and responsibilities of the business and its customers, and the service standards the business proposes to deliver over the regulatory period.

The Commission monitors and enforces compliance with obligations set out in the Customer Service Code. It does this by auditing compliance with the regulatory

obligations, and by responding to and following up on issues or concerns raised by customers or other stakeholders about compliance matters.

The Commission is not responsible for regulating or driving performance in the areas of water conservation, the environment and water quality. EPA Victoria is responsible for regulating environmental standards. The Department of Environment and Primary Industries is responsible for water conservation measures, and the Department of Health is responsible for drinking water quality standards.<sup>1</sup>

### 1.4 WHERE WE SOURCE THE INFORMATION FROM

This report is based on two principal sources of information:

- performance data reported by the businesses against key performance indicators specified by the Commission, and comments from the businesses explaining their performance
- the findings of regulatory audits on the reliability of the performance indicator data reported by the businesses.

Some additional information is also sourced from other government departments and from the Energy and Water Ombudsman (Victoria) (EWOV).

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<sup>&</sup>lt;sup>1</sup> From 1 January 2015, the Department of Environment and Primary Industries becomes the Department of Environment, Land, Water and Planning. The Department of Health becomes the Department of Health and Human Services.

# 2 OVERVIEW OF THE WATER INDUSTRY

The Victorian water businesses are diverse in terms of size, the services they provide and the environments in which they operate.

The three key components of the water sector the Commission regulates are:

- the metropolitan water sector, comprising Melbourne Water, City West Water,
   South East Water and Yarra Valley Water
- the regional urban water sector, comprising Barwon Water, Central Highlands Water, Coliban Water, East Gippsland Water, Goulburn Valley Water, Gippsland Water, Grampians Wimmera Mallee Water (GWMWater), Lower Murray Water, North East Water, South Gippsland Water, Wannon Water, Western Water<sup>1</sup>, Westernport Water
- the rural water sector, comprising Goulburn Murray Water and Southern Rural Water. GWMWater and Lower Murray Water provide rural water services in addition to urban water services.

A map of the Victorian water sector, showing the metropolitan and regional urban water business boundaries, is provided in figure 2.1.

For the recent Water Price Review for the 2013–18 pricing period, Western Water was grouped with the metropolitan Melbourne water businesses. For this performance report, it will be considered a regional business, consistent with previous years.

YARRA VALLEY WATER LOWER MURRAY WATER CITY WEST WATER SOUTH EAST WATER GRAMPIANS WIMMERA MALLEE WATER NORTH EAST WATER COLIBAN WATER GOULBURN VALLEY WATER CENTRAL EAST GIPPSLAND WATER HIGHLANDS ELBOURNE WATER GIPPSLAND WATER SOUTH GIPPSI AND WESTERNPORT WATER

FIGURE 2.1 VICTORIAN WATER BUSINESSES 2013-14

### 2.1 METROPOLITAN BUSINESSES

In the metropolitan area, Melbourne Water provides wholesale services to the three metropolitan retailers. These services include:

- harvesting, storing and treating raw water supplies
- transmitting bulk water supplies
- operating the bulk sewerage service and treating the majority of sewage
- managing rivers and creeks and major drainage systems in the Port Phillip and Westernport regions (municipal councils provide local drainage services).

The three metropolitan retailers supply water and sewerage services to over 1.8 million customers (table 2.1). This represents about 75 per cent of the state's population and

accounts for around 14 per cent of total metered water use in Victoria. Their functions include:

- distributing and supplying water to customers and operating the sewerage network from customer premises through to the trunk sewer network. The retail businesses also operate some small sewage treatment plants from which they may also provide recycled water.
- providing a range of retail functions, including meter reading, customer billing, handling call centre enquiries, and handling complaints. The retailers also bill metropolitan customers for drainage services on behalf of Melbourne Water and parks charges on behalf of the Minister for Water.
- providing trade waste services to commercial and industrial customers.

Each retailer services a specific geographic area and (unlike the gas or electricity industries) does not compete directly with other retailers for customers.

**TABLE 2.1 METROPOLITAN WATER BUSINESSES — 2013-14 OVERVIEW** 

	Water customers (no.)	Sewerage customers (no.)	Length of water main (km)	Length of sewer main (km)
City West	403 185	399 764	4 746	4 118
South East	695 741	664 221	9 432	8 761
Yarra Valley	737 437	694 001	9 882	9 310
Melbourne Water	na	na	1 282	344

na Not applicable

Note: Water main includes both potable water and recycled water mains

### 2.2 REGIONAL BUSINESSES

Regional urban water businesses operate within geographically defined areas providing services to regional cities and towns throughout Victoria. Their customer base is smaller than that of the metropolitan retailers, representing about 25 per cent of the state's population, and their customers are generally dispersed across broader geographical regions (table 2.2). Total water use in regional urban areas is half that of the metropolitan areas, and accounts for about 7 per cent of total metered water use in Victoria.

Unlike the metropolitan sector, these businesses are generally vertically integrated, providing wholesale, distribution and retail services for both water and sewerage.

TABLE 2.2 REGIONAL WATER BUSINESSES — 2013-14 OVERVIEW

	Water customers (no.)	Sewerage customers (no.)	Length of water main (km)	Length of sewer main (km)
Barwon	145 600	130 618	3 903	2 459
Central Highlands	65 188	55 399	2 478	1 358
Coliban	70 893	63 743	2 203	1 859
East Gippsland	22 565	18 853	928	684
Gippsland	65 973	57 203	2 096	1 622
Goulburn Valley	55 855	49 062	1 807	1 248
GWMWater	31 295	25 285	1 094	670
Lower Murray	32 581	28 084	907	633
North East	48 285	43 074	1 716	1 167
South Gippsland	19 400	16 613	699	427
Wannon	42 008	35 419	1 882	910
Western	56 930	51 004	2 055	1 205
Westernport	15 726	14 372	474	352

Note: Water main includes both potable water and recycled water mains

### 3 USAGE, PRICE TRENDS AND PAYMENT MANAGEMENT

#### 3.1 **BACKGROUND**

Affordability of water, sewerage and other related services is a key issue for customers. This affordability is influenced by:

- the size of a customer's bill, which is determined by both price and a customer's level of consumption
- the suitability of the payment options available
- the availability and effectiveness of assistance offered by the businesses to customers experiencing payment difficulties (including financial assistance and payment plans, hardship policy initiatives and advice on reducing water use)
- the availability of concessions or emergency financial relief from the Victorian Government.

The Commission approves maximum prices for urban water and sewerage, rural water and other prescribed services. In June 2013 the Commission approved prices for metropolitan, regional and rural businesses for a five year pricing period (from 2013-14 to 2017-18), except for Melbourne Water and Goulburn Murray Water which both have a three year pricing period.

The Commission does not determine the level of concessions or emergency relief (for example, through the Utility Relief Grants Scheme (URGS)) available to customers. These support mechanisms are provided by the Victorian Government and administered through the Department of Human Services (DHS).1

<sup>&</sup>lt;sup>1</sup> From 1 January 2015, the Department of Health becomes the Department of Health and Human Services.

The Commission's Customer Service Code (the Code) specifies standards and conditions for payments, collections and actions for nonpayment, with which the Victorian urban water businesses must comply.

This section reports the:

- impact of price changes on households between 1 July 2013 and 30 June 2014
- typical household bills for owner occupiers and tenants (showing relative fixed and variable components)
- number of customers on instalment payment plans
- number of customers receiving government assistance through concession payments and the URGS
- number of restrictions of supply and legal actions for nonpayment and the average debt levels at the time such action is taken
- number of hardship grants applied for and awarded by water businesses.

### 3.2 PRICE IMPACTS ON HOUSEHOLD CUSTOMERS

Prices and tariff structures for water and sewerage differ between businesses. All businesses have a fixed fee and a usage based charge for water. Only the metropolitan retail businesses have a usage based charge for residential sewerage. Usage based charges allow households to influence their total bill by reducing water consumption.

A number of businesses use an 'inclining block' tariff structure for water, where the usage price rises with the level of consumption. City West Water, South East Water, Yarra Valley Water, Central Highlands Water, Lower Murray Water, Wannon Water and Western Water used an inclining block tariff structure in 2013-14. The other nine urban water service providers had a single tier water usage charge. Coliban Water and Westernport Water changed their tariff structures from inclining block to single tier for the 2013–18 pricing period which commenced 1 July 2013.

The Commission's pricing determinations establish a fixed price path by stating the maximum prices businesses may charge for each year of the pricing period. The

Commission then reviews annually each business's proposed price increases to ensure they still comply with the price determination, and approves the annual increment including the consumer price index (CPI) component. Annual price increases for a particular business may vary from year to year across the pricing period; hence the relative increases for various businesses may differ each year. Some businesses have larger increases built in at the beginning of the pricing period, while others have no real increase in prices over the pricing period.

### 3.3 AVERAGE ANNUAL HOUSEHOLD CONSUMPTION

A greater emphasis on usage based charges means trends in consumption are increasingly important in calculating average bills and in assessing affordability. Consumption patterns differ throughout the state for a number of reasons including climate, demographics, housing mix and any water restrictions that may be in place.

Weighted average<sup>2</sup> annual household consumption across Victoria fell slightly this year, down 2 per cent from 163 kilolitres in 2012-13, to 160 kilolitres in 2013-14. This is the first fall in average consumption since restrictions were removed in 2011. Both the metropolitan and regional areas of Victoria contributed to the fall in consumption.

Generally, average household consumption remained higher in regional Victoria (187 kilolitres per household, down from 194 kilolitres in 2012-13), than in metropolitan Melbourne (150 kilolitres per household, down from 152 kilolitres in 2012-13). Average household consumption ranged from 80 kilolitres for Westernport Water's region (which has a large seasonal population) to 450 kilolitres in Lower Murray Water's region in the state's north west, traditionally the highest consumption in the state (figure 3.1). Average consumption in Melbourne remains fairly consistent across the three metropolitan retail businesses, with 153 kilolitres for Yarra Valley Water, 145 kilolitres for City West Water, and 149 kilolitres for South East Water.

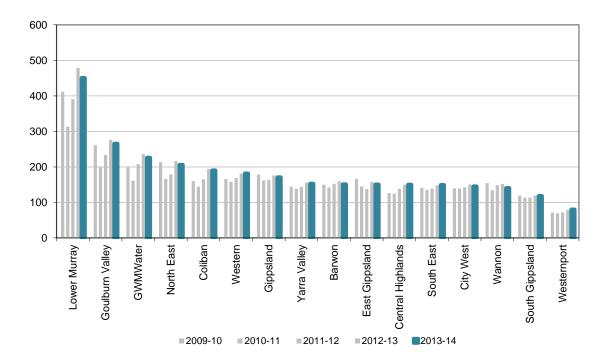
Overall, the average household consumption levels for most businesses either stayed steady or decreased slightly. Wannon Water and Lower Murray Water saw the largest

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<sup>&</sup>lt;sup>2</sup> A weighted average reflects the size of each water business and its relative contribution to the overall average.

percentage decreases in average household consumption (8 per cent and 6 per cent respectively).

FIGURE 3.1 AVERAGE ANNUAL HOUSEHOLD CONSUMPTION (kilolitres per household)



### 3.4 AVERAGE HOUSEHOLD BILLS

Differences in average household bills across the businesses can be attributed to several factors: the cost to service different regions, sources of water, historical decisions about tariff structures and the average volume of water used.

Customers serviced by businesses with a higher variable water component can exercise greater control over their bills. North East Water had the highest proportion of water charges collected through variable charges of the regional urban water businesses. Variable water charges represented 71 per cent of its water bills compared with the regional average of 56 per cent. For metropolitan businesses, South East

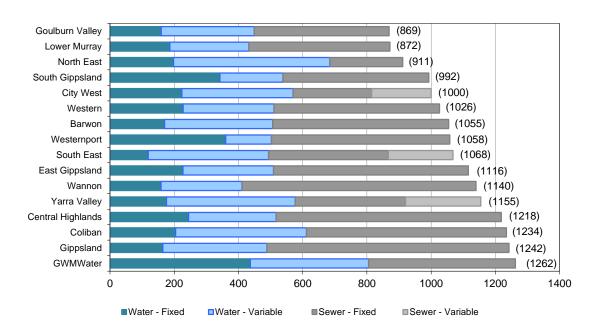
Water had the greatest water variable charge proportion, staying steady at 76 per cent moving into the first year of the new pricing period.

We use each business's average household consumption (figure 3.1) to calculate an indicative average household bill for water and sewerage services. This average bill includes both the fixed and variable water and sewerage charges. Metropolitan customers also pay drainage charges on behalf of Melbourne Water and parks charges on behalf of the Minister for Water, but these charges are not included in our typical household bill estimates. For regional businesses with multiple pricing zones, we used the prices in the largest town to calculate each business's average household bill.

Statewide, average household bills for owner occupiers increased by \$155 (or 17 per cent), increasing from \$933 in 2012-13 to \$1088 in 2013-14 (the first year of the new pricing period). The metropolitan average (\$1089) and the regional average (\$1086) are now very similar. The average household bill across businesses ranged from \$869 to \$1262 (figure 3.2):

- Goulburn Valley Water (\$869) and Lower Murray Water (\$872) reported the lowest average water bills, followed by North East Water (\$911).
- As in 2011-12 and 2012-13, GWMWater (\$1262) and Gippsland Water (\$1242) had the highest average water bills. These were closely followed by Coliban Water (\$1234) and Central Highlands Water (\$1218).
- Of the metropolitan businesses, City West Water (\$1000) and South East Water (\$1068) remained below the industry average, but Yarra Valley Water (\$1155) did not.
- The metropolitan water businesses recorded the largest percentage increase in average household bills between 2012-13 and 2013-14 of around 23 per cent. This increase was largely driven by the desalination plant contract costs that are now fully reflected in prices and follows the metropolitan price freeze in 2012-13.
- The regional average increased by only 2 per cent moving into the new pricing period. Six businesses (Barwon Water, East Gippsland Water, Gippsland Water, North East Water, South Gippsland Water and Wannon Water) saw the average bill fall in nominal terms, while Goulburn Valley Water and Westernport Water had increases less than CPI. Coliban Water recorded the largest increase of 16 per cent, rising from \$1064 in 2012-13 to \$1234 in 2013-14.

FIGURE 3.2 OWNER OCCUPIERS — AVERAGE HOUSEHOLD BILLS 2013-14 (\$, nominal)



**Note:** For businesses with multiple pricing zones, the average household bill was calculated using the prices in the largest town. The average household bill for GWMWater was based on bills in Horsham; South Gippsland Water's on Inverloch and Wonthaggi; Central Highlands Water's on Ballarat; Wannon Water's on Warrnambool; North East Water's on Wodonga; East Gippsland Water's on Bairnsdale; and Coliban Water's on Bendigo.

Historical average household bills for owner occupiers are presented in table 3.1. The three metropolitan retailers showed significant increases in household bills. Regional businesses showed a spread of small negative or positive increases, except Coliban Water whose average bill rose by 16 per cent since 2012-13.

**TABLE 3.1 OWNER OCCUPIERS — AVERAGE HOUSEHOLD BILLS** (\$, nominal)

	2009-10	2010-11	2011-12	2012-13	2013-14
City West	597	687	791	813	1 000
South East	619	722	829	857	1 068
Yarra Valley	649	763	910	953	1 155
Barwon	778	843	953	1 066	1 055
Central Highlands	951	1 007	1 096	1 169	1 218
Coliban	778	877	966	1 064	1 234
East Gippsland	878	932	1 017	1 135	1 116
Gippsland	1 049	1 098	1 185	1 261	1 242
Goulburn Valley	654	662	759	864	869
GWMWater	941	947	1 096	1 211	1 262
Lower Murray	719	691	770	832	872
North East	717	735	804	922	911
South Gippsland	868	906	958	1 003	992
Wannon	830	902	1 044	1 148	1 140
Western	812	865	956	977	1 026
Westernport	883	929	988	1 041	1 058

**Note:** Average household bills are in that year's dollars, and calculated using that year's average consumption levels for each business.

**Note:** The 2012-13 Performance Report showed City West Water's average owner-occupier bill for 2012-13 as \$848, when it should have been \$813 (making it the lowest for the state).

Tenants do not pay service or fixed charges and are only responsible for the usage, or variable, component of the bill. Melbourne tenants pay the sewer variable charges as well as the water variable charges. Tenants' average household bills ranged from \$143 (Westernport Water, which has a high proportion of fixed charges and low average consumption) to \$635 (Yarra Valley Water) in 2013-14 (table 3.2).

Tenant's average bills fell in nominal terms for five regional businesses, and increased by less than CPI for two others. Tenants of the remaining six regional businesses had bill increases ranging from 6 per cent to 19 per cent.

The three metropolitan businesses all showed increases in the typical tenant bill — City West Water by 25 per cent, South East Water by 31 per cent and Yarra Valley Water

by 24 per cent. These increases reflect the full contract cost of the desalination plant and a larger increase following the 2012-13 metropolitan price freeze.

All calculated typical tenant bill changes were in accordance with the approved price increases outlined in each business's price determination for the 2013–18 pricing period.

**TABLE 3.2 TENANTS — AVERAGE HOUSEHOLD BILLS** (\$, nominal)

	2009-10	2010-11	2011-12	2012-13	2013-14
City West	298	347	405	426	532
South East	316	357	411	439	576
Yarra Valley	332	380	468	511	635
Barwon	244	255	301	354	337
Central Highlands	180	190	224	257	273
Coliban	218	270	323	389	408
East Gippsland	209	198	208	257	282
Gippsland	279	271	294	337	325
Goulburn Valley	196	168	224	293	290
GWMWater	259	215	301	364	368
Lower Murray	164	120	179	232	246
North East	333	338	394	503	487
South Gippsland	151	158	174	195	196
Wannon	200	192	240	265	253
Western	194	204	245	265	283
Westernport	91	93	103	120	143

**Note:** Average household bills are in that year's dollars, and calculated using that year's average consumption levels for each business.

**Note:** The 2012-13 Performance Report showed City West Water's average tenant bill for 2012-13 as \$461, when it should have been \$426.

There is a bill estimator available to consumers on our website at www.esc.vic.gov.au

### 3.5 PAYMENT DIFFICULTIES

The urban water businesses must assist customers with payment difficulties on a case-by-case basis by:

- providing alternative payment arrangements in accordance with a customer's capacity to pay, including offering a range of payment options (such as flexible payment plans) or redirecting the bill to another person to pay
- offering to extend the due date for some or all of an amount owed
- appropriately referring customers to government funded assistance programs (including the URGS) or to an independent financial counsellor
- observing minimum periods of notice before applying supply restrictions or pursuing legal action to recover outstanding debts
- not restricting water supply of a customer or pursuing legal action before first taking additional steps to secure payment, including making a reasonable attempt to contact the person, offering a payment arrangement and resolving any dispute over the outstanding amount.

The Commission extended the hardship related guaranteed service level (GSL) scheme to all 16 urban retail water businesses from 1 July 2012. It gives businesses another incentive to try contacting a customer before initiating legal action or restricting water services in response to nonpayment. Please see the Commission's website for more information about hardship GSLs.

### BOX 3.1 ADDITIONAL SUPPORT FOR GREATER METROPOLITAN CUSTOMERS

In its final decision for the 2013 water price review, the Commission allowed \$5.25 million for the metropolitan retailers (City West Water, South East Water, Western Water, and Yarra Valley Water) to help customers manage the large price increases from July 2013. Businesses were expected to use the additional revenue to enhance existing hardship policies, expand programs, adopt best practice and improve associated infrastructure. The extra revenue was not intended for direct financial customer assistance, because other options existed already.

After consulting with water businesses and community groups, the Commission established performance measures to monitor how well the water businesses managed the additional hardship funds. A report on water businesses' performance against these measures is now available on the Commission's website.<sup>3</sup>

Overall, the report was positive and indicated businesses generally treated customers experiencing hardship well in 2013-14. There were some areas for improvement, but businesses have plans to keep improving and innovating their hardship approach in 2014-15.

### **CUSTOMERS WITH INSTALMENT PLANS**

Instalment plans help to address affordability issues by providing customers experiencing financial difficulties the flexibility to manage their bill payments. An increase in the number of instalment plans being used by customers could mean:

- an increase in the number of customers experiencing hardship
- the businesses are using the instalment plans more frequently or instead of other methods to assist customers having financial difficulties.

2013-14 is the second year to report concession and nonconcession customers separately.

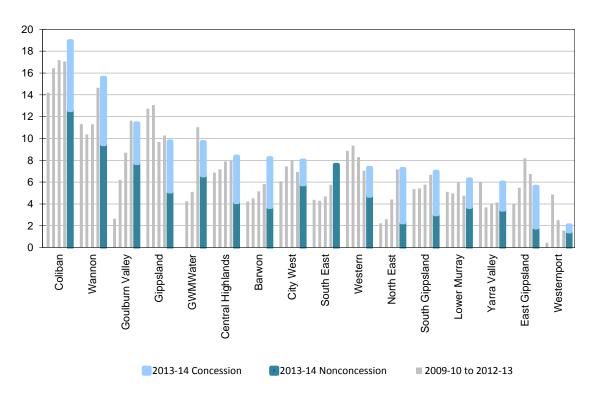
In 2013-14, the use of instalment plans for residential customers ranged from 2.0 per 100 customers for Westernport Water (with its large seasonal customer base) to 18.9 per 100 customers for Coliban Water (figure 3.3). The average in Melbourne increased by 31 per cent from 5.4 to 7.0 instalment plans per 100 customers. This growth is likely correlated to the price increases customers faced in 2013-14, particularly for South East Water and Yarra Valley Water customers whose average bills increased by over 20 per cent. Regional areas experienced a slight increase in use

<sup>&</sup>lt;sup>3</sup> Essential Services Commission 2014, *Review of new hardship measures taken by metropolitan water businesses 2013-14*, December.

of instalments plan, increasing by 8 per cent overall, with Coliban Water and Barwon Water showing the largest increases.

The overall rate of residential instalment plans increased from 6.3 per 100 customers in 2012-13 to 7.7 in 2013-14. The number of residential customers on instalment plans increased from 141 935 in 2012-13 to 177 555 in 2013-14.

FIGURE 3.3 RESIDENTIAL CUSTOMERS WITH INSTALMENT PLANS (per 100 customers)



**Note:** South East Water did not report on concession and nonconcession customers separately. It requires a program change in its billing system, which should be completed by December 2014. GWMWater changed its billing system during 2009-10 and could not report on many of the indicators in this section for that year.

Instalment plans for nonresidential customers either stayed steady or decreased for most businesses except for Coliban Water and Wannon Water, who showed significant increases of over 30 per cent. As with previous years, Coliban Water and Wannon

Water used instalment plans more than the other water businesses (10.7 and 8.7 per 100 customers respectively).

Like the previous year, Coliban Water used instalment plans to manage payment difficulties for both residential and nonresidential customers. Wannon Water used instalment plans to provide flexibility to nonresidential customers to pay their account. It aims to ensure customers pay their account in full before the next quarterly account is issued.

### **UTILITY RELIEF GRANTS SCHEME**

DHS administers the URGS, which provides one-off financial contributions towards a bill of a customer experiencing payment difficulties. The URGS payment is generally used for a short term financial crisis. It is different from the hardship programs provided by the water businesses to customers who experience ongoing financial hardship (see section 3.7).

The number of URGS grants increased by 43 per cent from 4412 in 2012-13 to 6309 in 2013-14 (table 3.3); the rate of grants increased from 2.0 per 1000 customers in 2012-13 to 2.7 in 2013-14. DHS attributed the increased grants to the high costs of shelter and rising energy and water costs. Water grants also increased, as water businesses introduced hardship programs which include the utility relief grant as an option for assistance.

Wannon Water, Western Water, Gippsland Water and Goulburn Valley Water had the highest rates of URGS uptake for the period with 6.1, 5.5, 5.5 and 5.1 per 1000 customers respectively. Almost a third of all URGS payments went to Yarra Valley Water customers, with a total of \$830 717 paid between the 1995 customers.

The average grant amount in 2013-14 was \$407, up \$6 from 2012-13. The average value of grants ranged from \$344 for Lower Murray Water to \$439 for Wannon Water.

TABLE 3.3 AVERAGE AMOUNTS OF UTILITY RELIEF GRANTS 2013-14 (\$, nominal)

	Approved	Grants paid (\$)	Average amount grant paid (\$)	Grants per 1000 customers
City West	654	\$270 255	\$413	1.8
South East	1 465	\$577 431	\$394	2.3
Yarra Valley	1 995	\$830 717	\$416	2.9
Barwon	263	\$105 573	\$401	2.0
Central Highlands	274	\$108 568	\$396	4.6
Coliban	157	\$64 792	\$413	2.4
East Gippsland	64	\$25 611	\$400	3.2
Gippsland	332	\$139 129	\$419	5.5
Goulburn Valley	253	\$92 086	\$364	5.1
GWMWater	58	\$23 457	\$404	2.2
Lower Murray	44	\$15 158	\$344	1.5
North East	172	\$62 806	\$365	4.0
South Gippsland	24	\$9 440	\$393	1.5
Wannon	218	\$95 797	\$439	6.1
Western	299	\$130 880	\$438	5.5
Westernport	37	\$15 824	\$428	2.5
TOTAL	6 309	\$2 567 523	\$407	2.7

Source: Department of Human Services.

### **CONCESSIONS**

The Victorian Government provides concessions to assist low income households with water and sewerage bills at their principal place of residence.

In 2013-14, the government contributed \$156 million in concession payments towards water bills (table 3.4). This was an increase of \$4 million compared with 2012-13.

**TABLE 3.4 CONCESSION PAYMENTS** (\$, nominal)

	2012-13	2013-14
City West	\$20 200 806	\$21 661 105
South East	\$41 444 895	\$43 183 169
Yarra Valley	\$46 463 765	\$45 398 652
Barwon	\$8 857 403	\$9 488 852
Central Highlands	\$4 412 676	\$4 651 208
Coliban	\$4 673 133	\$4 936 714
East Gippsland	\$1 645 846	\$1 715 867
Gippsland	\$4 618 013	\$4 765 630
Goulburn Valley	\$3 863 635	\$3 965 546
GWMWater	\$2 515 565	\$2 378 006
Lower Murray	\$1 964 877	\$2 041 408
North East	\$3 436 532	\$3 549 131
South Gippsland	\$1 287 477	\$1 315 837
Wannon	\$2 841 571	\$2 875 456
Western	\$3 208 078	\$3 407 546
Westernport	\$600 805	\$641 120
TOTAL	\$152 035 077	\$155 975 248

Source: Department of Human Services.

### 3.6 SUPPLY RESTRICTIONS AND LEGAL ACTIONS

The Customer Service Code, which took effect 1 July 2005, requires all urban water businesses to assist customers facing payment difficulties on a case-by-case basis. It also requires water businesses take steps before restricting supply. A revised Code, released in October 2010, increased the minimum outstanding payment amount at which businesses could initiate supply restriction or legal action to \$200. This Code applied for 2013-14.

Most businesses apply water supply restrictions or take legal action only after providing all possible assistance to customers, and where the level of outstanding debt is high.

#### WATER SUPPLY RESTRICTIONS APPLIED FOR NONPAYMENT OF BILL

Water businesses reported on:

- the number of customers restricted for nonpayment of their water bills
- restrictions data disaggregated by concession/nonconcession for residential customers
- the average level of outstanding debt for which supply restrictions were applied.

In 2013-14, 3319 residential customers (including 587 residential concession customers) had their water supply restricted for nonpayment of water bills. This result was a significant increase from 2012-13, with 880 more residential customers having their water supply restricted (122 residential concession customers and 758 residential nonconcession customers). The number of nonresidential customers whose water supply was restricted also increased, from 74 in 2012-13 to 102 in 2013-14.

The overall rate of water supply restrictions increased by 36 per cent (from 2513 to 3421), which was largely driven by significant increases in the number of residential customer restrictions applied by Yarra Valley Water and South East Water (142 per cent and 38 per cent respectively). Combined they accounted for more than half of all restrictions in the state and almost 90 per cent of the increase. City West Water and East Gippsland Water continued to not restrict any customers for nonpayment of bills.

Both Yarra Valley Water and South East Water engaged more with customers who were late paying their bills, including significantly more customer visits this year. Various payment management options are offered to these customers, and both businesses considered they better identified customers who were unable to pay. The businesses also identified more customers considered able to pay their outstanding bills, but restricted water supply if these customers refused to pay.

Westernport Water traditionally has one of the highest restriction rates (figure 3.4). It has a large number of seasonal nonpermanent residents who do not require a water supply year round, and seem to not mind having their supply restricted until they need it again. During 2011-12 and 2012-13, anticipating a new billing system, Westernport Water suspended the restriction program and focused on helping customers with payment arrangements. However, the new billing system was delayed during 2013-14, so Westernport Water resumed its restriction program under the old billing system. The

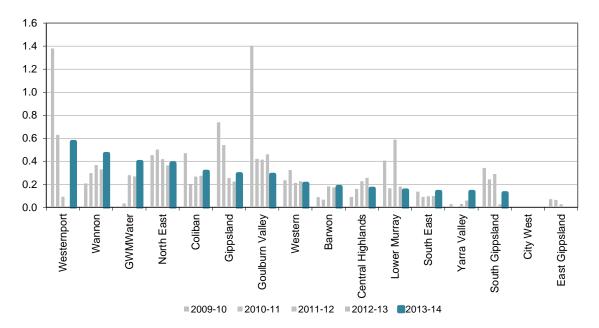
new billing system is now operational, and Westernport Water again suspended customer restrictions during the changeover period as a precautionary measure to protect customers from any unforeseen circumstances associated with the new system.

In 2012-13 Goulburn Valley Water had the highest restriction rate, but in 2013-14 it had the largest decrease in restrictions for nonpayment of bills (down 42 per cent). Restrictions fell from 255 in 2012-13 to 148 in 2013-14. The business used additional methods including site visits and SMS messaging to contact nonpaying customers, reducing restrictions and maintaining an acceptable debt balance.

FIGURE 3.4 RESIDENTIAL SUPPLY RESTRICTIONS FOR NONPAYMENT OF BILLS

(per 100 customers)

(per 100 customers)



In 2013-14, the average customer debt levels at which businesses restricted supply were higher than those in 2012-13 for most water businesses. They ranged from \$398 for North East Water to \$2022 for Yarra Valley Water.

#### **RESTRICTION DURATION (RESIDENTIAL)**

Water businesses must identify how long customers restricted for nonpayment remain on supply restrictions. Specifically, they must report the number of residential customers whose water supply is restored within three days of being restricted, as well as the number of residential customers with restrictions still in place after 14 days. A high proportion of customers on supply restrictions for long periods of time may suggest the restriction policy is poorly targeted, with customers unable to pay their bill rather than being unwilling to do so. Supply restrictions may also be less effective in rural areas where people have access to alternative water supplies such as water tanks and dams.

Businesses reported a range of 20 per cent to 78 per cent of restricted customers had their water supply restored within three days. The proportion of supply restrictions not restored within 14 days generally ranged from 2 per cent (Western Water) to 70 per cent (GWMWater). GWMWater actively assists its customers with outstanding accounts to avoid restrictions, so restrictions are generally applied only when the customer does not respond to GWMWater's attempts to help, or the property is vacant. These restrictions are usually in place for some time. For other businesses, these proportions were reasonably consistent with previous years.

#### **LEGAL ACTIONS FOR NONPAYMENT OF BILLS**

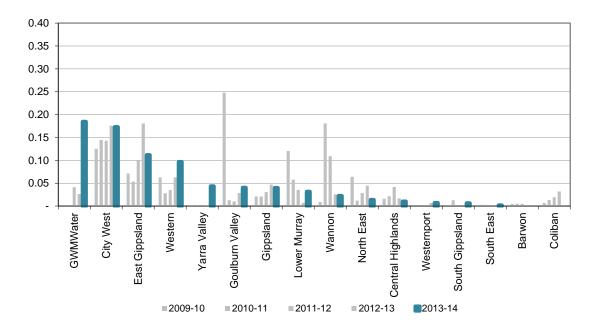
Overall, businesses took legal action against 1318 customers across Victoria in 2013-14 for nonpayment of water bills — 406 customers (45 per cent) more than the previous year. Legal action was taken against 1135 residential customers (985 nonconcession customers and 150 concession customers) and 183 nonresidential customers.

Despite this increase, the overall rate for legal action against residential customers for nonpayment of bills remained low at 0.05 per 100 customers (or one in 2000). It ranged from no legal actions (Barwon Water and Coliban Water) to 0.18 per 100 customers (GWMWater) (figure 3.5).

Yarra Valley Water had the largest increase in legal actions for nonpayment of bills, increasing from 25 in 2012-13 to 412 in 2013-14, and accounting for almost 90 per cent of the overall increase this year. Like the increase in water supply restrictions, Yarra Valley Water's increased engagement with nonpaying customers led to more legal

actions; the business pursued legal action as the last avenue to recover debt from customers identified as able to pay.

FIGURE 3.5 RESIDENTIAL LEGAL ACTIONS (per 100 customers)



City West Water again recorded the highest number of legal actions at 666 (compared with 674 the previous year). According to the business, these results reflect its practice to take legal action, rather than to restrict supply, recognising the essential nature of its service to households. City West Water and Yarra Valley Water collectively accounted for 82 per cent of all legal actions reported and recorded results much higher than South East Water with only 24 legal actions (none against concession customers).

The average debt for initiating legal action was substantially higher than the \$200 minimum specified in the Code, ranging from \$1091 for City West Water to \$7020 for South East Water. City West Water, with the highest number of legal actions, had the lowest average debt level for legal action, indicating its preference to use legal actions instead of restrictions.

### 3.7 HARDSHIP GRANTS (RESIDENTIAL)

Under the Code, all water businesses serving urban customers must have policies to assist residential customers in hardship. At a minimum, the hardship policies must:

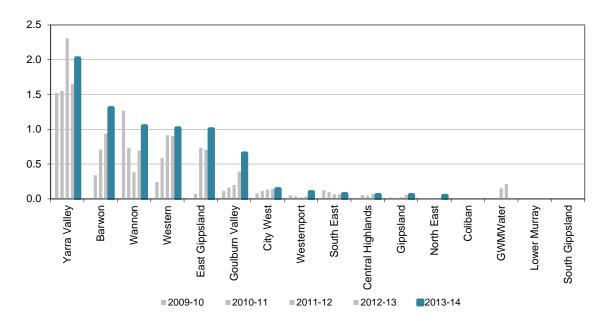
- exempt customers in hardship from supply restriction, legal action and additional debt recovery costs while payments are made to the business according to an agreed flexible payment plan or other payment schedule
- offer information about the water business's dispute resolution policy and the Energy and Water Ombudsman (Victoria) or other relevant dispute resolution forum.

Water businesses approved 18 065 hardship grants in 2013-14, up from 14 416 in the previous year. Yarra Valley Water again had the most extensive hardship grant scheme, accounting for 77 per cent of grants approved (13 826 grants) at an average value of \$158 (figure 3.6). It also recorded the largest increase in the number of grants. Yarra Valley Water attributed this increase to the 1 July 2013 price rise, together with additional customer visits to nonpaying customers. Its 'Arrange and Save Program' rewards customers who make regular payments, and results in a sustained high number of hardship grants. Barwon Water, Goulburn Valley Water and Wannon Water also approved significantly more hardship grants in 2013-14.

By contrast, Coliban Water, GWMWater, Lower Murray Water and South Gippsland Water did not provide any hardship grants to customers. Coliban Water and Lower Murray Water have not done so since 2007-08.

#### FIGURE 3.6 HARDSHIP GRANTS APPROVED

(per 100 customers)

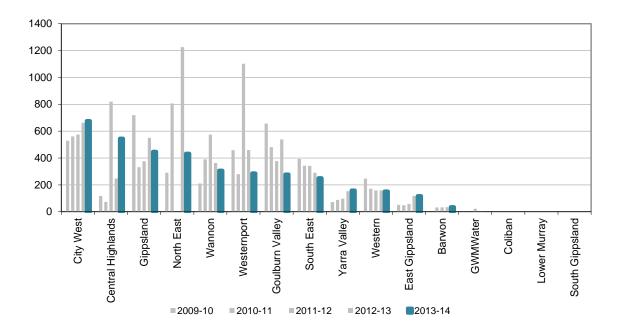


The average value of hardship grants across businesses ranged from \$35 to \$676 in 2013-14, with an overall average of \$168. City West Water reported the highest average value of hardship grants and approved 511 grants, while Barwon Water reported the lowest (figure 3.7).

North East Water reported the largest decrease in the average value of hardship grants, from \$1226 in 2012-13 to \$433 in 2013-14. However, with its small customer base it only approves a small number of grants, so its annual average varies considerably.

# FIGURE 3.7 AVERAGE VALUE OF HARDSHIP GRANTS

(\$, nominal)



# 4 CUSTOMER RESPONSIVENESS AND SERVICE

#### 4.1 BACKGROUND

This chapter reports on customer service and responsiveness performance — in particular, call centre performance and customer complaints.

The Customer Service Code places obligations on businesses for customer responsiveness and service. These obligations include having policies, practices and procedures for handling customers' complaints and disputes, and providing certain information to customers on request. Auditing businesses' compliance with the Code is done in conjunction with performance report audits.

#### 4.2 RESPONSIVENESS OF WATER BUSINESS CALL CENTRES

In 2013-14, the water businesses received 2.29 million phone calls, 84 per cent of which were calls to account enquiry lines. This was a 3 per cent increase from 2.22 million calls in 2012-13.

Call centre performance is measured in terms of the:

- time taken for a customer call to be connected to an operator
- percentage of calls connected to an operator within 30 seconds
- response to 'mystery caller' surveys.

Connection measures are disaggregated between account enquiries and emergency contact numbers. Nine businesses have a separate number for faults and emergencies. These businesses are Goulburn Valley Water, Barwon Water, South

East Water, North East Water, Westernport Water, Gippsland Water, City West Water, GWMWater and Yarra Valley Water. Businesses without a separate fault and emergency number must record all calls against account lines. These businesses are Coliban Water, Central Highlands Water, East Gippsland Water, Lower Murray Water, South Gippsland Water, Wannon Water and Western Water. These differences can make direct comparisons between businesses difficult, although calls are generally answered faster when a business has a fault line available to customers. Central Highlands Water previously maintained separate account and fault lines, but combined them in 2013-14 to a main line to allow for easier call routing.

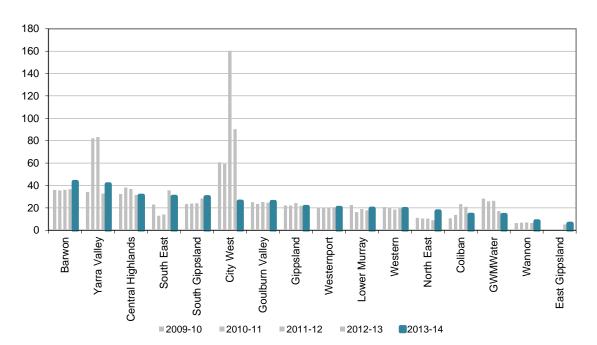
#### TIMELINESS OF CALL CENTRES IN CONNECTING CALLS TO AN OPERATOR

Timeliness of call centres in connecting incoming calls to operators is an important factor influencing customer satisfaction, and it depends on the nature of the phone system used by the business. Businesses may use interactive voice response (IVR) systems to intercept calls before directing the customer to the appropriate customer service area. This approach generally increases the time taken to connect to an operator. Barwon Water — with the longest average connect time this year (43 seconds) — uses an IVR, while East Gippsland Water — with the shortest connect time (6 seconds) — has external calls answered by an operator.

Across the Victorian water industry, the weighted average time to connect to an operator was 31 seconds in 2013-14, 10 seconds shorter than the average of 41 seconds in 2012-13. This result reflected large reductions in call connect times for City West Water (from 90 seconds in 2012-13 to 26 seconds in 2013-14) (figure 4.1). Three initiatives accounted for City West Water's improved performance. First, a robust and targeted recruitment program reduced attrition and introduced blended skills to a more experienced workforce. Second, an individualised approach to training increased the speed to competence of newly trained agents. Third, an improved resource planning process, combined with consultants with blended skills, more accurately matched skilled resources to demand.

All nine businesses with a separate emergency fault line reported connection times of 29 seconds or less for the fault line. City West Water had the largest reduction in call connect times to its fault line, falling from 29 seconds in 2012-13 to 20 seconds in 2013-14. No business reported a significant increase.

FIGURE 4.1 AVERAGE TIME TAKEN TO CONNECT TO AN OPERATOR — ACCOUNT AND FAULT LINES (seconds)



Note: East Gippsland Water could not report this data for years prior to 2012-13.

#### **CALLS ANSWERED WITHIN 30 SECONDS**

While the average call connect time measures the overall responsiveness of a call centre, it does not capture the frequency with which calls are answered promptly. The percentage of calls answered within 30 seconds more accurately reflects the incidence of poor waiting times.

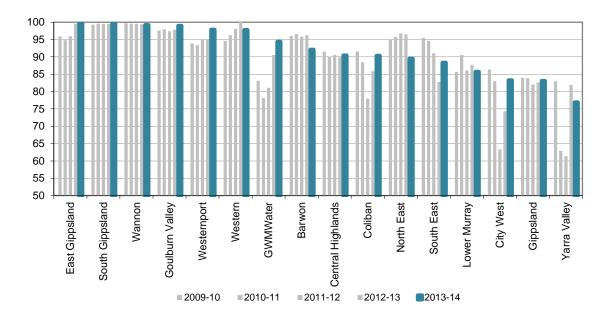
Ten businesses reported at least 90 per cent of calls answered within 30 seconds. South Gippsland Water, East Gippsland Water, Goulburn Valley Water and Wannon Water reported over 99 per cent — South Gippsland Water and Wannon Water for the fifth consecutive year (figure 4.2).

Yarra Valley Water had the lowest percentage of calls answered within 30 seconds at 77 per cent (falling from 82 per cent in 2012-13), followed by City West Water and Gippsland Water both recording 83 per cent. Although still low, City West Water's

performance improved from the lowest result last year of 74 per cent, reflecting the three new initiatives noted above.

North East Water recorded the largest decline in performance over the period, falling from 96 per cent in 2012-13 to 90 per cent in 2013-14. North East Water attributed the decline to staff restructuring and a higher number of calls (up 18 per cent). The Commission accepts restructuring may cause a temporary drop in performance, but not a long term change.

FIGURE 4.2 CALLS ANSWERED WITHIN 30 SECONDS — ACCOUNT AND FAULT LINES (per cent)



#### 4.3 BENCHMARKING OF CALL CENTRES

The Commission engaged Customer Service Benchmarking Australia (CSBA) to benchmark call centre performance in 2013-14 against Australian water and energy sector averages. CSBA assesses a business's performance from calls to its account lines using the 'mystery caller' technique, which can result in different figures than those reported by businesses.

CSBA reported performance for sector averages (metropolitan retail and regional urban) and for the top performing business in a particular category. These results were also compared with the Australian water sector average, and an overall Australian utility sector average. In 2013-14, CSBA made 1567 calls to regional urban businesses and 340 calls to the metropolitan retailers.

#### **CALL CENTRE CONNECT TIMES**

CSBA's 'mystery caller' survey for the metropolitan water businesses reported an average connect time of 58 seconds in 2013-14, 11 seconds slower than in 2012-13. This result largely reflected a worsening connect time for City West Water over the past 18 months. South East Water had the shortest connect time, averaging 38 seconds per call; this result was 20 seconds quicker than the Victorian metropolitan water average.

Regional businesses recorded an average connect time of 36 seconds, which was slightly higher than in 2012-13 and 2011-12. GWMWater and Wannon Water remained the best performing regional urban businesses, averaging 12 second connect times, 24 seconds quicker than the Victorian regional water average.

The average connect time for the Australian water sector was 40 seconds in 2013-14 (up from 35 seconds in 2012-13), while the average response time for all utilities in Australia (which includes energy and water) also increased, rising to 66 seconds from 61 seconds.

#### **GREETING QUALITY**

CSBA measures greeting quality according to an index comprising: welcome salutation, giving the business name, giving the agent's name, making an offer to help the caller and sign off. Greeting quality for the Victorian Water industry remained constant over the three years to 2013-14.

The metropolitan retailers achieved an overall greeting quality score of 91 per cent in 2013-14, equal to 2012-13. City West Water achieved the best result, with 93 per cent over the year, and remained the top metropolitan retailer for the past three years. The regional urban businesses achieved an overall greeting quality score of 90 per cent,

equal to 2012-13. Wannon Water led the Victorian regional water sector for 2013-14, with 98 per cent.

Victorian water businesses were consistent with Australian utility averages. The overall greeting quality score for the Australian water sector was 90 per cent in 2013-14, compared with the overall greeting quality score for the Australian utility sector (94 per cent).

#### **AGENT MANNER**

CSBA measures agent (operator) manner using four mutually exclusive ratings: interested, helpful and warm (best practice agent manner); businesslike and unemotive; laidback and easy going; and disinterested and curt. Agent manner scores for all 16 water providers continued improving since 2011-12. Regional and metropolitan water providers generally provided a service where agents were interested, warm and attentive in their conduct with customers.

The metropolitan retailers achieved best practice agent manner 98 per cent of the time in 2013-14 (up from 97 per cent in 2012-13). Yarra Valley Water and South East Water both scored 98 per cent in 2013-14. The regional urban businesses achieved best practice agent manner for 99 per cent of calls in 2013-14 (up from 98 per cent in 2012-13). Six water businesses scored full marks of 100 per cent over 2013-14.

Victorian water businesses were consistent with Australian utility averages. The overall agent manner score for the Australian water sector was 99 per cent for 2013-14, the same as the Australian utility average. This pattern demonstrates companies' focus on creating a positive and lasting impression with customers.

#### **ENQUIRY HANDLING SKILLS**

CSBA measures four key enquiry handling skills: ability to probe to clarify customer needs; product service knowledge; agent provides a clear outcome for the enquiry; and agent is helpful and courteous.

In 2013-14, call centre staff of the metropolitan retailers:

• fully probed the caller's needs 90 per cent of the time (compared with 78 per cent in 2012-13 and 64 per cent in 2011-12)

- demonstrated good product knowledge 90 per cent of the time (up from 87 per cent in 2012-13 and 80 per cent in 2011-12)
- provided a clear outcome to an enquiry 93 per cent of the time (up from 89 per cent in 2012-13 and 85 per cent in 2011-12)
- were courteous and helpful 94 per cent of the time (up from 92 per cent in 2012-13 and 89 per cent in 2011-12).

Of the metropolitan retailers, South East Water was the best performer across all enquiry handling skill categories, with 93 per cent overall for 2013-14.

In 2013-14, call centre staff of the regional urban businesses:

- fully probed the caller's needs 90 per cent of the time (up from 81 per cent in 2012-13 and 65 per cent in 2011-12)
- demonstrated good product knowledge 94 per cent of the time (up from 91 per cent in 2012-13 and 83 per cent in 2011-12)
- provided a clear outcome to an enquiry 96 per cent of the time (up from 92 per cent in 2012-13 and 85 per cent 2011-12)
- were courteous and helpful 97 per cent of the time (up from 94 per cent in 2012-13 and 89 per cent in 2011-12).

Western Water was the best Victorian regional water company in the enquiry handling skills category for 2013-14, with 98 per cent.

#### 4.4 WEBSITE ASSESSMENTS

CSBA also assessed the 16 urban Victorian water businesses' websites, using the following criteria: ease of use; identity, control and interactivity; and enquiry resolution (searchability of information). Research in this area was last conducted by CSBA in 2012.

#### **EASE OF USE**

Water businesses' websites were more user-friendly and intuitive in 2014 than they were in 2012. The Ease of Use index rose from 86 in 2012 to 94 in 2014. Ten water

businesses scored full marks by providing customers with all the basic tools needed to navigate and search through the websites. The most notable improvements were clearly identifying the homepage link on each webpage, and providing customers with an available site map detailing the layout of the website.

#### **IDENTITY, CONTROL AND INTERACTIVITY**

All water businesses displayed a clear and consistent corporate identity and information to customers. Water businesses used language that is easy to understand and most websites supported the main web browsers (Internet Explorer, Firefox and Chrome). Additionally, all water businesses achieved first placed rankings when searching for the organisation's name through Google.

Despite improvements in user control, most website resolutions could not adjust to accommodate mobile phone screens. Best practice now requires websites can accommodate mobile devices, providing functionality to customers. Other areas for potential improvement include the ability to read website content in multiple languages and increased social media engagement.

#### **ENQUIRY RESOLUTION**

CSBA used five typical customer enquiries to assess each water business's website:

- paying an account online
- lodging a complaint
- booking a special meter reading
- requesting a property service plan
- obtaining information on current service disruptions.

Overall performance fell slightly between 2012 and 2014 (from 84 per cent to 81 per cent) and the number of mouse clicks required to find certain information varied depending on the enquiry. CSBA found payment of account and complaint information quickly, but information on special meter reading and service disruptions required more clicks. Further, it was difficult finding enquiry information via the search box and performance decreased significantly since 2012 (falling from 86 per cent to 71 per cent).

These results suggest customers have difficulties both finding and reading relevant information despite websites becoming more user-friendly over the past two years. Further businesses must update their website's search terms and information structure so search terms remain relevant.

#### 4.5 COMPLAINTS

Customer complaints indicate dissatisfaction with the services provided by water businesses. The subject matter of customer complaints can also provide important information about aspects of performance needing improvement. If a business cannot resolve a complaint directly with the customer, the customer may refer the matter to the Energy and Water Ombudsman (Victoria) (EWOV) for further investigation.

#### TOTAL NUMBER OF COMPLAINTS

Businesses report the number of customer complaints about:

- water quality
- water supply reliability
- sewerage service quality and reliability
- payment issues<sup>1</sup>
- water pressure/flow rate
- sewage odour
- 'other' complaints.

A complaint is recorded if a customer registers dissatisfaction in a complaint category.

<sup>&</sup>lt;sup>1</sup> The Commission formed a new category, payment issues, in 2012-13. It combines the affordability and billing categories from previous years.

Businesses must also further categorise the types of water quality complaints they receive into:

- colour
- taste and odour
- 'other'.

Water quality complaints are discussed in more detail in chapter 6.

In 2013-14, businesses received 13 492 customer complaints, a 26 per cent decrease from the 18 202 complaints received in 2012-13. This result equates to a frequency of 0.54 complaints per 100 customers across the state in 2013-14, down from 0.74 in 2012-13. A 43 per cent decrease in complaints from Yarra Valley Water (down from 9042 in 2012-13 to 5198 in 2013-14) accounted for most of the improvement.

Yarra Valley Water recorded 1129 payment issues complaints, 3182 fewer than last year when it peaked at 4311, although this is still higher than City West Water and South East Water combined.

Yarra Valley Water stated its improved performance reflected three factors. First, its new escalated enquiry process (adopted in May 2013) escalates a customer enquiry to a team with specialised knowledge and authority at the initial contact. Escalations increased significantly during the year, so more issues were resolved before they became complaints. Second, the 2012-13 figure included a large number of complaints about over collecting and the subsequent return of desalination payments, an issue largely resolved by 2013-14. Third, Yarra Valley Water's water quality complaints fell in 2013-14 (see section 6.3).

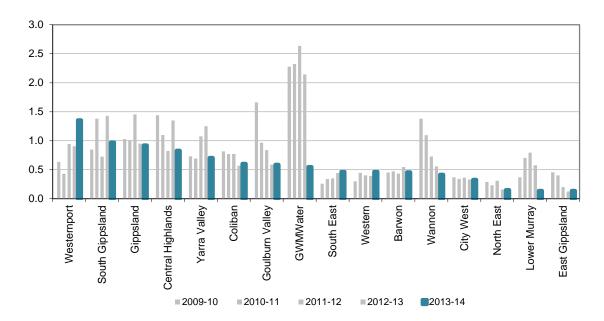
Eleven water businesses reported falls in total complaints per 100 customers, with the most significant decrease coming from GWMWater (from 2.15 in 2012-13 to 0.55 in 2013-14) (figure 4.3). GWMWater recorded falls in water quality complaints and all complaints categories generally. The business had the highest water quality complaint rate for the past four years, reflecting ongoing water quality issues and rural customer billing complaints. But its water quality complaints dropped in 2013-14, due to investment in water quality improvement projects and improvements in source water quality (see sections 6.2 and 6.3). Its total complaints also fell, following improvements in business systems and processes. Yarra Valley Water, Lower Murray Water, Central

Highlands Water, South Gippsland Water and Wannon Water also experienced significant falls in their complaint rates.

By contrast, the complaint rate rose for five businesses. Westernport Water's complaint rate increased by 50 per cent, most of which were water quality complaints for taste/odour following an algal bloom in Candowie Reservoir (see section 6.3). Western Water's rate rose 17 per cent, and the other increases were relatively minor.

Water businesses received most complaints about water quality (48 per cent), followed by payment issues (20 per cent), water pressure (14 per cent), sewer odour (4 per cent), water supply reliability (2 per cent), and sewer service reliability (1 per cent). Other complaints not included in these categories comprised 11 per cent of total complaints.

FIGURE 4.3 COMPLAINTS RECEIVED BY WATER BUSINESSES (per 100 customers)



# 4.6 COMPLAINTS RECEIVED BY THE ENERGY AND WATER OMBUDSMAN (VICTORIA)

EWOV has investigated complaints about water businesses since 2001. Its role is to help resolve complaints and disputes between consumers and electricity, gas and water providers in Victoria.

EWOV records complaints under four separate categories:

- assisted referrals where a customer spoke with someone at their company's contact centre about their complaint, but it remains unresolved and the matter is referred to a higher level complaint resolution officer at the company
- unassisted referrals where a customer did not speak with their company about their complaint and they are referred back to the company's contact centre
- investigated complaints when an assisted referral failed and the customer recontacted EWOV or the company escalated the matter to an investigation
- real time resolution EWOV's Real Time Resolution Team receives failed assisted referral calls from customers and then works to resolve the complaint through customer education and direct negotiation with the customer and their company (all within a one-call approach).

EWOV also records the number of enquiries it receives. Table 4.1 records the number of enquiries and complaints EWOV received about metropolitan and regional urban water businesses.<sup>2</sup>

In 2013-14, EWOV received 2559 complaints about the metropolitan and regional urban water businesses, up 16 per cent from 2198 complaints in 2012-13. EWOV also received 67 enquiries, up slightly from 64 last year. By contrast, electricity complaints rose 7 per cent over the same period, and gas complaints rose 21 per cent.

The number of complaints to EWOV for each of the three metropolitan retailers was fairly consistent with the sector share of customers for each business. South East Water had a slightly lower proportion of complaints than its sector share, while Yarra Valley Water was slightly higher.

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<sup>&</sup>lt;sup>2</sup> The Commission does not report enquiries and complaints about rural water businesses.

Of the regional businesses, Westernport Water had the highest number of complaints referred to EWOV relative to sector share, with 4 per cent of all regional complaints while only servicing 2 per cent of the regional population. This was followed by Coliban Water (15 per cent of regional complaints and an 11 per cent sector share). Lower Murray Water experienced the lowest ratio of customer complaints to EWOV relative to customers served, with only 1 per cent of all regional complaints while servicing 5 per cent of regional customers. Next was Goulburn Valley Water (with 4 per cent of regional complaints and an 8 per cent sector share).

**TABLE 4.1 EWOV COMPLAINTS** 

Water businesses	Total cases			Total enquiries Total complaints		2013-14 complaints				Sector share	Ratio			
	2013-14	%	2012-13	%	2013-14	%	2013-14	%	Investigated complaints	Real time resolution	Assisted referrals	Unassisted referrals	%	Complaints to sector share
Melbourne	27		51		0		27		3	0	16	8		
City West	439	21	455	27	10	21	429	21	18	13	280	118	22	0.97
South East	715	35	415	25	12	25	703	35	47	53	457	146	38	0.92
Yarra Valley	914	44	802	48	26	54	888	44	53	48	629	158	40	1.09
Total – Metropolitan	2 068	100	1 672	100	48	100	2 020	100	118	114	1 366	422	100	
Barwon	149	28	108	20	8	42	141	28	7	5	89	40	22	1.27
Central Highlands	38	7	54	10	1	5	37	7	7	0	24	6	10	0.75
Coliban	80	15	77	14	1	5	79	15	10	3	53	13	11	1.46
East Gippsland	13	2	13	2	2	11	11	2	1	0	7	3	3	0.64
Gippsland	35	7	45	8	1	5	34	7	2	2	22	8	10	0.68
Goulburn Valley	24	5	32	6	1	5	23	4	1	1	14	7	8	0.54
GWMWater	29	5	26	5	1	5	28	5	2	2	19	5	5	1.17
Lower Murray	7	1	10	2	0	0	7	1	2	0	5	0	5	0.28
North East	37	7	47	9	0	0	37	7	7	2	22	6	7	1.01
South Gippsland	10	2	10	2	1	5	9	2	0	1	6	2	3	0.61
Wannon	36	7	60	11	0	0	36	7	1	1	20	14	6	1.13
Western	52	10	40	7	2	11	50	10	2	2	31	15	8	1.15
Westernport	21	4	17	3	1	5	20	4	3	0	10	7	2	1.67
Total - Regional	531	100	539	100	19	100	512	100	45	19	322	126	100	
TOTAL – VICTORIA	2 626		2 262		67		2 559		166	133	1 704	556		

# 5 NETWORK RELIABILITY

#### 5.1 BACKGROUND

A reliable supply of water and sewerage services to customers is the cornerstone of a water business's operation. This chapter presents information on network reliability, considering asset performance, service interruptions to customers and responsiveness to service problems.

We look at water supply, then at sewerage services.

#### 5.2 WATER SUPPLY RELIABILITY

This section reports information about water supply reliability from two perspectives — asset performance and the impact on customers.

Reliability is assessed primarily by:

- the frequency of interruptions (as measured by the number of interruptions per 100 kilometres of water main, the average number of customer interruptions and the number of customers receiving multiple interruptions)
- the time taken to respond to and restore water supply following interruptions (as indicated by the number of interruptions restored within specified timeframes and the average duration of customer interruptions).

#### 5.3 WATER SUPPLY INTERRUPTIONS

A water supply interruption is an event that causes a total loss of supply to one or more customers. Interruptions may be due to planned maintenance activities, or unplanned activities resulting from pipeline or delivery system failures. The frequency of interruptions across different networks is compared by measuring the number of water supply interruptions per 100 kilometres of water main.

Soil type, geography and the assets' age and material cause regional variations in interruption rates for water mains, but asset management can also significantly affect supply reliability in the medium to long term.

The average number of water supply interruptions across the state was 37.5 interruptions per 100 kilometres of water main in 2013-14, a 1 per cent decrease from 37.9 interruptions in 2012-13. In 2013-14, Wannon Water again reported the lowest rate of water supply interruptions (at 9.6 per 100 kilometres); it has done so for the past six years, although its result was up from 8.4 interruptions in 2012-13 (figure 5.1). By contrast, Yarra Valley Water again reported the highest number of water supply interruptions (66.1 per 100 kilometres), up 4 per cent from last year. Yarra Valley Water attributed the increase to recommencing its water main cleaning in 2013-14, which it suspended during the drought to conserve water. The new mains cleaning program uses an ice slurry ('ice pigging') and is more effective than other cleaning methods such as water flushing, but requires shutting off the water mains for a short period.

GWMWater reported a significant 28 per cent increase in water supply interruptions, mainly due to an increase in planned interruptions. The business's new asset management strategy focuses on scheduled maintenance, resulting in a greater number of targeted planned maintenance activities with associated supply interruptions.

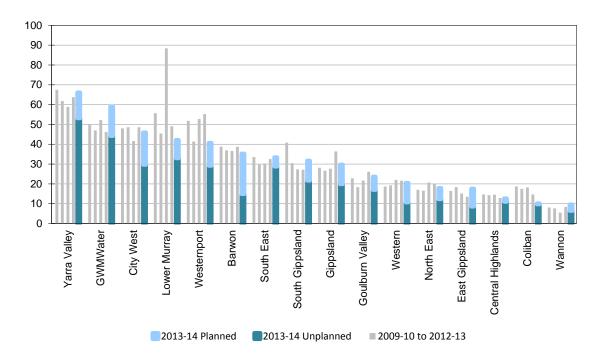
Coliban Water's unplanned interruptions dropped by 33 per cent by repairing bursts or leaks without interrupting supply where possible.

Water supply interruption rates remained relatively steady for most Victorian water businesses. The statewide average remained between 36 and 39 interruptions per 100 kilometres over the past five years. Wannon Water, Central Highlands Water,

Coliban Water, North East Water and East Gippsland Water maintained consistently low water supply interruption rates (around 20 or less).

FIGURE 5.1 WATER SUPPLY INTERRUPTIONS (PLANNED AND UNPLANNED)

(per 100 kilometres of water main)



## 5.4 CUSTOMER INTERRUPTION FREQUENCY

Customer interruption frequency measures how often on average a customer will experience an interruption. A single water supply interruption will generally inconvenience a specific number of customers. An event causing 50 customers to lose supply is recorded as one water supply interruption and 50 customer interruptions.

In 2013-14, the average frequency of customer interruptions (planned and unplanned) across the state was 0.27 interruptions per customer, up slightly from 0.26 interruptions per customer in 2012-13. Coliban Water reported the least water supply interruptions per customer (0.08) and retained one of the lowest rates since 2009-10 (figure 5.2).

GWMWater reported a significant increase in customer interruption frequency, both planned and unplanned, almost tripling from 0.27 to 0.79 per customer. The business attributed the large increase in unplanned customer interruptions to a number of power failures resulting in whole-of-town outages that affected every customer, but for only short periods.

Yarra Valley Water's customer interruption frequency increased in 2013-14, but both City West Water and South East Water reported improved results. For regional businesses, customer interruptions increased slightly overall but Westernport Water, Gippsland Water and Lower Murray Water reduced customer interruption frequencies by 20–35 per cent.

#### PLANNED AND UNPLANNED INTERRUPTIONS

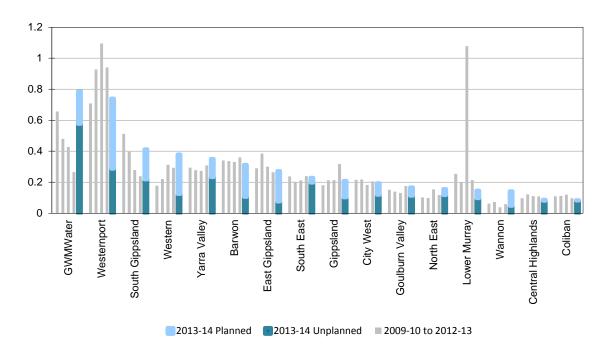
Results are also presented separately for planned and unplanned interruptions per customer. Ten businesses experienced increases in planned customer interruption frequency while only four businesses experienced increases in unplanned interruption rates.

Wannon Water's planned interruptions increased ten-fold but this comes off a small historical base of less than 0.01 planned interruptions per customer for the past four years. By contrast, Westernport Water recorded the highest rate (at 0.45). The business attributed its high rate to its water main air scouring program conducted across Casterton, Cavendish, Glenthompson, Merino, Port Fairy and Sandford townships.

GWMWater and South Gippsland Water reported the largest increases in unplanned customer interruption rate in 2013-14, while Westernport Water and Lower Murray Water reported the largest improvements. According to Lower Murray Water, its improved performance reflected fewer bursts and the introduction of additional isolation valves into the Urban Water Pipeline system when replacing older mains.

FIGURE 5.2 CUSTOMER INTERRUPTION FREQUENCY — PLANNED AND UNPLANNED

(interruptions per customer)



#### TIMING OF INTERRUPTIONS

The timing of customer interruptions, as well as the frequency, affects the inconvenience caused to customers. Peak hours of water use occur from 5am–9am and 5pm–11pm, and interruptions during these peak times generally cause greater inconvenience than during the off-peak times.

In 2013-14, Wannon Water, Western Water and South Gippsland Water reported no planned customer interruptions during peak hours, the fourth straight year for Western Water. Westernport Water reported the highest result this year, with a frequency of 0.06 planned interruptions per customer during peak hours, following no peak hour interruptions in 2012-13. Unlike in the previous year, Westernport Water ran parts of its air scouring program in peak hours in 2013-14 due to contractor availability.

#### 5.5 AVERAGE DURATION OF INTERRUPTIONS

Average interruption duration indicates how long it takes, on average, to restore supply after an interruption. It is measured from the time water supply is shut down until it is returned to normal service levels.

The frequency of interruptions may be influenced by matters outside the control of water businesses, but it is possible to establish practices and procedures to restore supply quickly when an interruption does occur.

#### PLANNED INTERRUPTIONS

Supply interruptions for planned work can vary greatly in duration, depending on the nature and extent of the planned work. On the one hand, businesses may conduct extensive programs to clean or replace pipes, and choose to maximise the amount of work performed during each scheduled supply interruption; this will increase the average duration. On the other hand, a business may strive to minimise or avoid planned supply interruptions wherever possible. This can produce quite varied results for a particular business from year to year, depending on the planned workload and strategy.

In 2013-14, the average duration of planned interruptions improved significantly across the state, falling from 158 minutes in 2012-13 to 133 minutes. Lower Murray Water recorded the shortest average duration of planned interruptions (73 minutes) while South Gippsland Water recorded the longest (177 minutes) for the second consecutive year (figure 5.3).

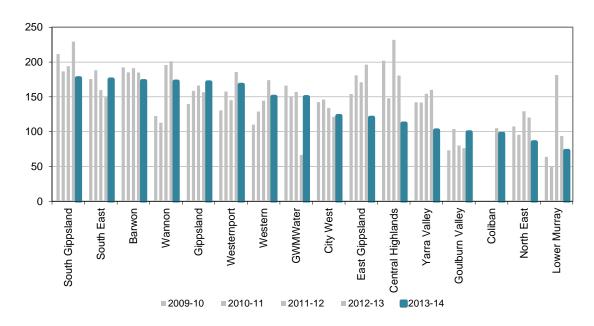
Among the metropolitan businesses, only Yarra Valley Water improved its average duration for planned interruptions compared with 2012-13. Among the regional businesses, East Gippsland Water and Central Highlands Water reported large improvements.

Central Highlands Water's improved performance reflected three factors. The business re-educated staff on minimising interruption duration by changing how tasks are carried out. Staff better executed tasks and the business experienced fewer failures that required joint to joint replacement. East Gippsland Water attributed its performance to improved maintenance program scheduling and ensuring work teams had appropriate skills and resources to complete maintenance tasks in less time.

By contrast, the following businesses reported increases in the average duration for planned interruptions:

- South East Water Average duration rose from 150 minutes in 2012-13 to 175 minutes in 2013-14. While the total number of interruptions was lower in 2013-14, there were fewer small jobs such as hydrant alterations with short duration times, and more large jobs such as water main alterations.
- Goulburn Valley Water Average duration rose from 76 minutes in 2012-13 to 99 minutes in 2013-14. This increase reflected works associated with developer works (new estates) and increased activity under Goulburn Valley Water's expanded water main replacement program.

FIGURE 5.3 AVERAGE DURATION OF PLANNED INTERRUPTIONS (minutes)



#### UNPLANNED INTERRUPTIONS

Unplanned interruptions generally involve water supply infrastructure failures (such as pipeline bursts, equipment or instrument failures) that require shutting down the water supply to conduct emergency repairs. The duration can be greatly affected by factors

including the size and location of the pipeline, access to the worksite, the availability of work crews to attend, and the nature of the repair required.

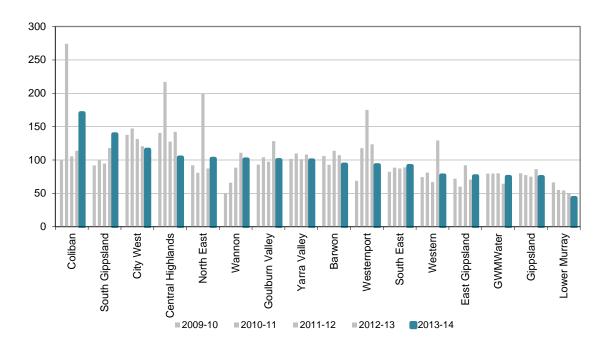
In 2013-14, the average duration for unplanned interruptions improved across the state (falling to 97 minutes compared with 104 minutes in 2012-13). Lower Murray Water again recorded the shortest average duration (43 minutes). Coliban Water reported the longest average duration (170 minutes), which it attributed to an accidental isolation of a trunk main that skewed the data (figure 5.4).

Of the metropolitan businesses, both City West Water and Yarra Valley Water recorded small improvements in their average duration for unplanned interruptions in 2013-14. By contrast, South East Water's results were stable for the past four years.

Eight regional businesses improved their performance but performance deteriorated for the other five. Notable results for the regional businesses included:

- Western Water returned to its historical trend, following a poor year in 2012-13
  when the business experienced five major bursts that affected a large number of
  properties and that were difficult to restore.
- Central Highlands Water reported a significant decrease, falling from 142 minutes in 2012-13 to 104 minutes in 2013-14, as a result of the improvements noted above.
- Westernport Water continued its trend of decreasing times for unplanned interruptions since 2011-12, falling from 175 minutes to 92 minutes over this period. This result reflected a lower reactive maintenance requirement following its air scouring program.

FIGURE 5.4 AVERAGE DURATION OF UNPLANNED INTERRUPTIONS (minutes)



#### 5.6 OVERALL RELIABILITY

Overall reliability of a water supply network is measured by customer minutes off supply (the product of average customer interruption frequency and average interruption duration). Businesses can improve overall reliability by reducing the frequency of interruptions, reducing the number of customers affected with each interruption event or by reducing the duration of interruptions. Businesses are likely to pursue a combination of these approaches to improve reliability.

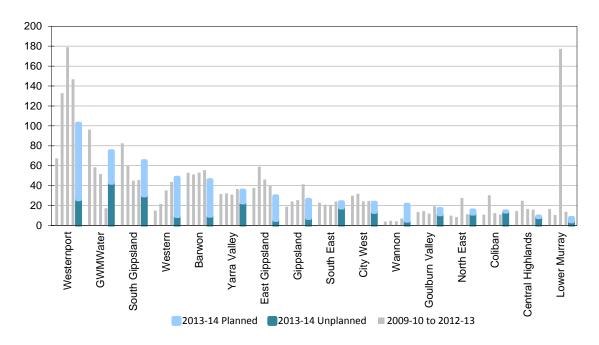
In 2013-14, the average customer minutes off supply across the state was steady at 29 minutes. Performance declined slightly for all three metropolitan businesses in 2013-14, but improved for seven of the 13 regional businesses (figure 5.5).

GWMWater reported the largest increase (from 17 minutes up to 75 minutes) after four years of steady decline; this was a result of power outages that affected a large

proportion of customers. Wannon Water also reported a significant increase, with its air scouring program tripling its average from 7 minutes to 21 minutes. This result contrasts with its historical performance, recording the lowest average for the previous four years.

Although Westernport Water reported a 30 per cent fall in average time off supply, it again recorded the highest result (102 minutes) for the fourth time in the past five years. According to Westernport Water, its result reflected the nature of its network (where a burst or a leak affects a significant proportion of its customers) and its preventative maintenance plan.

FIGURE 5.5 AVERAGE CUSTOMER MINUTES OFF SUPPLY (minutes)



#### 5.7 CUSTOMERS EXPERIENCING AN INTERRUPTION

This measure examines the number of customers who experienced a particular number of interruptions in a year. Many of the performance indicators concentrate on average performance, but this measure can identify customers who received poor service with a higher number of interruptions.

Nine of the 16 businesses reported fewer than 10 per cent of customers incurred one or more unplanned water supply interruptions during 2013-14. Wannon Water again reported the lowest interruption rate (3.9 per cent of customers had at least one interruption) while GWMWater and Westernport Water reported the highest rates (43.9 per cent and 24.7 per cent respectively). GWMWater's high figure is explained by the power outages which affected a high proportion of customers.<sup>1</sup>

For customers incurring multiple interruptions (two or more unplanned interruptions), Wannon Water and Coliban Water reported the smallest percentage (both 0.7 per cent of customers) while GWMWater reported the highest (8.8 per cent) followed by Yarra Valley Water (3.9 per cent).

Businesses also reported the restoration times for unplanned and planned customer interruptions. These measures look at how promptly a water business restores supply once it shuts down a water main. The majority of unplanned water supply interruptions are restored within five hours, ranging from 95 per cent at Coliban Water up to 100 per cent at Westernport Water and Goulburn Valley Water.

<sup>&</sup>lt;sup>1</sup> GWMWater did not report this data in recent years because its asset management system could not capture multiple interruptions for a given customer. However, the business re-established this required reporting for 2013-14.

#### 5.8 SEWERAGE SERVICE RELIABILITY

This section reports information about the reliability of sewerage services from two perspectives — the performance of the businesses' assets and the impacts on customers. Sewerage reliability is influenced by:

- frequency of service failure (as indicated by sewer blockages per 100 kilometres of main and the number of blockages experienced by customers)
- responsiveness to service failure (as indicated by sewer spills contained within five hours)
- containment of sewage within the system (as indicated by the number of sewage spills, in particular spills onto customers' properties).

Customers in Victoria rarely lose access to sewerage services. Blockages or other faults usually result in sewage spills rather than incapacity to dispose of sewage. The exception is when blockages occur in the pipe connecting a customer's property to the sewerage system. The impact of these interruptions, while great on the individual customer affected, is minor in an overall network context because it is confined to that customer. By contrast, a single water supply interruption will typically result in a loss of service to about 50 properties.

# 5.9 FREQUENCY OF SEWER BLOCKAGES

A sewer blockage is a partial or total obstruction of a sewer main that impedes sewage flow. This measure includes all trunk and reticulation main blockages, but excludes blockages in the service connection branch and property drain.

A sewer blockage may lead to a sewage spill because it reduces the capacity of the sewer to handle the volume of sewage, particularly at times of high rainfall. Asset management practices affect the performance of the sewerage network, but a range of external factors can contribute to sewer blockages, particularly hot liquid fats solidifying as they cool and tree roots intruding into the sewers.

The overall rate of sewer main blockages across the state increased by 12 per cent in 2013-14, with 22 sewer blockages per 100 kilometres of sewer main, up from 19 in

2012-13. Thirteen of 16 water businesses reported an increase in the rate of sewer main blockages in 2013-14, going against the longer term trend of falling sewer blockage rates.

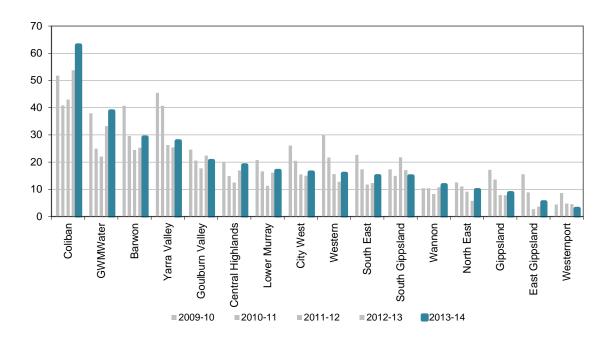
Westernport Water had the lowest rate of sewer blockages (2.8 blockages per 100 kilometres of sewer main), following a 38 per cent decrease from the previous year (the largest improvement out of all water businesses) (figure 5.6). The improved result is attributed to a robust preventative maintenance program that emphasises sewer assets. The works schedule included a CCTV program to identify the condition of the sewer mains and ongoing capital works designed to reduce maintenance.

For the second consecutive year, Coliban Water and GWMWater recorded the highest sewer blockage rates with 62.9 blockages and 38.7 blockages per 100 kilometres of sewer main respectively, up from 53.7 and 33.2 in 2012-13. These businesses also recorded the two largest increases this year. Historically, Coliban Water recorded the worst sewerage reliability figures of all water businesses, and its poor performance appears to be worsening. To improve results, Coliban Water completed 1500 preventative sewer cleaning tasks, targeted blockage-prone areas with CCTV and mains cleaning, and trialled chemical treatment methods to inhibit plant root growth.

GWMWater introduced its new asset management strategy in 2013, focusing on scheduled maintenance. It may take several years for service reliability to improve, but the business expects the frequency of sewer blockages to fall in 2015-16.

FIGURE 5.6 SEWER BLOCKAGES

(per 100 kilometres of sewer main)



#### **CUSTOMERS AFFECTED BY SEWER BLOCKAGES**

Businesses also reported the number of customers affected by sewer blockages caused by a system fault, identifying where a customer experienced multiple sewer blockages during the year. This parameter can be very subjective, because it is difficult to determine how many customers were actually affected by a particular sewer blockage, unlike water where precise numbers are known. A sewer blockage may result in a sewer spill at a low point in the system, without necessarily leading to a loss of service for all upstream customers. This is because customers upstream of the blockage and spill location might still be able to discharge into the sewer.

The Commission's indicator review changed reporting requirements from 2012-13, with businesses now only required to report the number of customers experiencing three or more sewer blockages in the year. Most businesses reported very low numbers of customers experiencing three or more sewer blockages per year. The exceptions were North East Water (32 customers or 0.07 per cent) and Coliban Water (13 customers or 0.02 per cent).

#### **5.10 CONTAINMENT OF SEWER SPILLS**

Reticulation and branch sewage spills are a failure to contain sewage within the sewerage system. This measure excludes spills from emergency relief structures and at sewer pump stations, and spills due to blockages in house connection branches. The severity of spills is broken into two priority levels.

A priority one spill refers to a spill that causes:

- a public health concern
- significant damage to property
- a discharge to a sensitive receiving environment, or
- a discharge from a sewer pipe that is 300 millimetres (or greater) in diameter, or the flow is greater than 80 litres per minute.

A priority two spill refers to any minor failure to contain sewage within the sewerage system and any spill affecting several users that results in:

- minor property damage, or
- a discharge outside a building that does not pose a health risk.

#### PRIORITY ONE AND TWO SPILLS

In 2013-14:

- Thirteen of the 16 water businesses reported three or less priority one sewer spills per 100 kilometres of sewer main, and 11 reported one or less spill. Historically, 11 businesses had less than one priority one spill per 100 kilometres of sewer main for five years running, with only Coliban Water and South Gippsland Water averaging more than five for the same period (figure 5.7).
- Coliban Water reported more priority one spills than any other business even though it improved this indicator by 41 per cent. Coliban Water attributed the high number of blockages to the age and condition of its sewer network. Its number of priority one spills in 2013-14 was 11.1 per 100 kilometres compared with 18.9 in 2012-13. However, its priority two spill rate increased from 16.0 to 27.3 in 2013-14, the highest result for all water businesses.

- Yarra Valley Water reported the second highest rate of priority two spills (20.6 per 100 kilometres of sewer main, an increase from 17.8 in 2012-13). However, this result is significantly better than its performance in 2009-10, when it had 32.8 spills per 100 kilometres.
- North East Water, Lower Murray Water and East Gippsland Water all reported only a single priority one spill.

Some businesses classify their spills differently. South Gippsland Water, for example, considers all sewer spills have a potential public health concern, and therefore classifies all sewer spills as priority one.

#### CONTAINING SPILLS

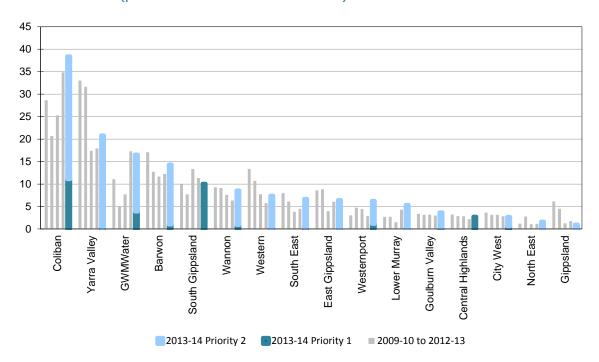
Reporting the percentage of spills that are fully contained within five hours reflects the timeliness with which businesses contain sewer spills from branch and reticulation sewers. Eleven businesses contained 100 per cent of sewer spills within five hours in 2013-14, up from 10 businesses last year. The remaining five businesses were:

- Yarra Valley Water 99.9 per cent, up from 99.8 per cent in 2012-13
- Barwon Water 99.7 per cent, down from 100 per cent in 2012-13
- Coliban Water 99.0 per cent, down from 99.5 per cent in 2012-13
- Wannon Water 98.7 per cent, down from 100 per cent in 2012-13
- Westernport Water 90.9 per cent, down from 100 per cent in 2012-13

However, the actual number of spills not contained within five hours was small for most businesses: two spills of 22 for Westernport Water, one spill of 78 for Wannon Water and seven spills of 714 for Coliban Water. Yarra Valley Water's and Barwon Water's results of close to 100 per cent were good for two businesses with a high number of spills.

Historically, water businesses responded quickly to contain sewer spills. This year 99.7 per cent of sewer spills were contained within five hours.

FIGURE 5.7 SEWER SPILLS FROM RETICULATION AND BRANCH SEWERS (per 100 kilometres of sewer main)



# 5.11 SEWER SPILLS — CUSTOMER PROPERTIES AND THE ENVIRONMENT

Another measure of sewerage reliability is the number of sewer spills caused by a fault in the water business's systems that allowed sewage to discharge onto a customer's property.

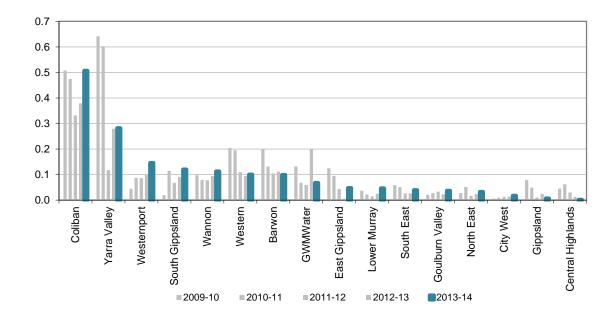
City West Water, Central Highlands Water and East Gippsland Water reported the lowest spills to customers' properties, ranging from 0.002 to 0.017 per 100 customers in 2013-14. By contrast, Coliban Water reported the highest rate at 0.51 (figure 5.8). This result was consistent with Coliban Water's higher rate of sewer blockages and spills than the other businesses.

Across the state, the overall rate of sewer spills to customer property increased slightly from 0.12 spills per 100 customers in 2012-13 to 0.13 spills per 100 customers in

2013-14. This result was mainly driven by Coliban Water's increase from 237 customers affected in 2012-13 to 323 customers affected in 2013-14.

FIGURE 5.8 SEWER SPILLS TO CUSTOMER PROPERTY

(per 100 customers)



## 6 DRINKING WATER QUALITY

#### 6.1 BACKGROUND

Safe, good quality drinking water is essential for community health and wellbeing. One of the core functions of the urban water businesses is delivering water that is safe and pleasant to drink.

In Victoria, the governance framework for supplying safe drinking water is set out in the Safe Drinking Water Act 2003 and the Safe Drinking Water Regulations 2005, both administered by the Department of Health.<sup>1</sup>

This chapter reports on compliance with some key parameters that indicate drinking water quality, namely:

- microbiological activity
- turbidity
- customer complaints due to water quality.

Some reticulated water supplies in regional Victoria deliver nonpotable water and do not need to meet drinking water standards. These supplies are not included in the indicators.

#### **6.2 WATER QUALITY**

The microbiological quality of drinking water is measured in terms of the number of Escherichia coli (E. coli) bacteria per 100 millilitres of drinking water. The presence of

<sup>&</sup>lt;sup>1</sup> From 1 January 2015, the Department of Health becomes the Department of Health and Human Services.

E. coli means water may be contaminated with faecal material. These organisms should not be present in drinking water.

In 2013-14, all but one of the 16 urban water businesses met the Safe Drinking Water Regulations requirement for all water supply zones. That is, at least 98 per cent of all samples of drinking water collected for a water supply zone in any 12 month period contained no *E. coli*.

Like 2012-13, Coliban Water again reported the only non-compliance for 2013-14, with 99.4 per cent of its customers receiving drinking water that complied with the *E. coli* standard. However, *E. coli* was detected in the Elmore water supply system, but resampling after flushing the system showed no *E. coli*. Coliban Water will continue to monitor this system closely to see if any further action is required.

Turbidity in water is caused by the presence of fine suspended particles of clay and silt, algae and other microscopic organisms. It is measured in Nephelometric Turbidity Units (NTU). High turbidity levels can result in water having a 'muddy' or 'milky' appearance.

The Safe Drinking Water Regulations require at least 95 per cent of samples collected for a drinking water supply zone in a 12 month period be below 5.0 NTU. In 2013-14, all water businesses reported they delivered drinking water that complied with the Regulations.

This is the first year that GWMWater reported full compliance for turbidity. A long term program to improve water quality suffered a setback in 2010-11 when extreme rain events and flooding washed very fine silt into GWMWater's reservoirs, affecting the turbidity levels for several years. GWMWater invested in substantial water quality improvements, and an additional six towns now meet drinking water quality standards (following water treatment upgrades in 2013-14). It will continue to review and optimise operations to manage water quality issues and towns without full drinking water treatment processes.

#### **6.3 WATER QUALITY COMPLAINTS**

From a public health perspective, microbiological water quality is the most important indicator. However, colour, taste and odour are important to customers' perceptions. The number of water quality complaints is a measure of customer satisfaction with these aesthetic qualities. This can vary considerably from year to year for a water business; specific one-off type events can produce a large number of complaints, significantly affecting the business's performance for the year.

The water quality complaint rate for all Victorian water customers was 0.26 complaints per 100 customers in 2013-14, a 10 per cent reduction from 0.29 recorded in 2012-13. This reduction largely represented Yarra Valley Water's complaints for water colour falling 17 per cent this year and returning to pre-2012-13 rates. Most water businesses reported significant variations in their overall rate of water quality complaints for 2013-14 (figure 6.1). Ten businesses reported reductions in complaint rate, three reported increases, and three remained steady.

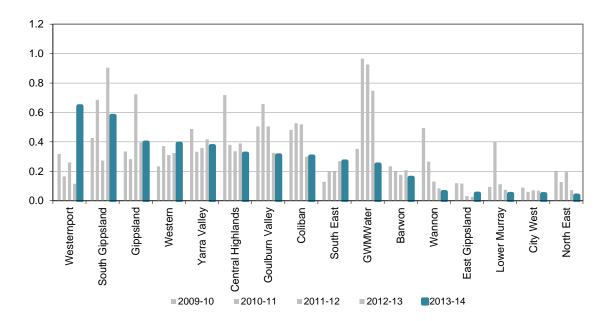
Westernport Water reported this year's highest complaint rate of 0.64 complaints per 100 customers. A large increase in taste/odour complaints followed a naturally occurring algal bloom in the recently expanded Candowie Reservoir. Higher water levels came into contact with previously uncovered ground, causing higher nutrient loads in the water. This in turn led to a massive algal bloom which exceeded the previous maximum dosing rate for effective taste and odour control. Increased dosing addressed the issue, but took time to flush through the water distribution network. Westernport Water improved its odour and taste monitoring program to prevent this incident reoccurring.

South Gippsland Water had the second highest rate of 0.58 complaints per 100 customers. It reported a large reduction in complaints for colour following last year's spike, but an increase in complaints for taste/odour due to an algal bloom at the Lance Creek supply system feeding Wonthaggi, Inverloch and Cape Patterson.

GWMWater's complaint rate fell to 0.25 per 100 customers, returning to levels similar to those recorded before the 0.97 spike in 2010-11 (following the January 2011 floods). As discussed above, GWMWater invested in improving water treatment facilities across its many small towns, which substantially reduced complaints for both colour and taste/odour.

North East Water and City West Water reported the lowest complaint rate of 0.04 per 100 customers, followed by Lower Murray Water and East Gippsland Water with 0.05 and Wannon Water with 0.06.

FIGURE 6.1 WATER QUALITY COMPLAINTS — ALL CAUSES (per 100 customers)



Most complaints were about colour for most businesses. By contrast, taste/odour prompted most complaints for Central Highlands Water, South Gippsland Water and Westernport Water.

### 7 ENVIRONMENTAL

#### 7.1 BACKGROUND

This chapter covers sewage treatment and compliance, effluent recycling, biosolids reuse and greenhouse gas emissions.

#### 7.2 SEWAGE EFFLUENT TREATMENT VOLUMES

A sewerage system receives waste water from various sources, including residential sewage, nonresidential sewage, trade waste and other sources such as inadvertent storm water. The nature of this combined sewage stream, and therefore the treatment required, can vary significantly due to these different sources, in particular the trade waste sources.

The Environment Protection Authority (EPA) regulates treated sewage effluent quality through discharge licences at sewage treatment plants. The level of sewage treatment required usually depends on the type of waterway into which the treated sewage is discharged. There are three defined levels of sewage treatment:

- primary treatment generally to remove a substantial amount of suspended matter
- secondary treatment to substantially reduce biological oxygen demand (BOD) and suspended solids
- tertiary treatment to remove nutrients, further suspended solids and possibly targeted contaminants of concern.

Victoria treated 475 500 megalitres of sewage in 2013-14, down 1 per cent from 479 500 megalitres in 2012-13.

Most businesses (13 of 17, including Melbourne Water) recorded small increases in the amount of sewage treated (1–16 per cent) from last year, with four businesses reporting small reductions (3–11 per cent) — the variations were generally within the range of previously reported effluent volumes. A 5 per cent increase in regional sewage volumes offset a 3 per cent fall in metropolitan volumes.

Melbourne Water treats about two thirds of the state's total reported sewage volume (92 per cent of Melbourne's total sewage volume) at its two Melbourne treatment plants. Following the 2012 upgrade, all sewage at the Eastern Treatment Plant is now treated to a tertiary standard, accounting for about 40 per cent of Melbourne Water's sewage. In the first full year of operation since the upgrade was completed, the proportion of tertiary treated sewage in Victoria increased to 40 per cent, from 13 per cent in 2011-12 and 35 per cent in 2012-13.

Gippsland Water was still the only business to report discharge of sewage that received only primary treatment, accounting for 2 per cent of total sewage treated in Victoria. About one third of Gippsland Water's reported 'sewage' is saline wastewater, received as a byproduct from the power industry. It is transported through the Saline Waste Outfall Pipeline (SWOP) for ocean discharge.

The remaining 58 per cent of the state's sewage is treated to a secondary level.

#### 7.3 RECYCLED WATER

The majority of sewage treatment plants operated by the water businesses are subject to the State Environment Protection Policy (Waters of Victoria) schedules, which are developed and administered by the EPA. The schedules require sewage treatment plant operators to sustainably reuse wastewater and treatment sludge wherever practicable and environmentally beneficial.

Recycled water is generally used for activities such as turf farms, some industrial processes, dairy farms, recreational lands such as parks or golf courses, and irrigation. Some businesses operate 'third pipe' recycled water supply systems to their customers, for nonpotable uses such as garden watering and toilet flushing. Recycled

water can also be used for beneficial environmental outcomes, such as wetlands, and onsite treatment plant uses external to the treatment process.

In 2013-14, the total volume of effluent reused across the state remained fairly steady, falling less than 1 per cent to 90 600 megalitres, from 91 400 megalitres in 2012-13 (table 7.1). This represents a reuse rate of 20 per cent of total available treated effluent, with the remainder discharged to the environment. This figure has been relatively steady for the past three years, after a low of only 15 per cent in 2010-11 which was a very wet year. In 2008-09, at the height of the drought, total reuse was 115 600 megalitres, representing 31 per cent of the available effluent.

However, there was considerable variation in effluent reuse volumes within the businesses. Six businesses reported increases between 2–29 per cent, while the remaining eleven businesses reported decreases of 2–84 per cent.

**TABLE 7.1 VOLUME OF EFFLUENT REUSED** (megalitres)

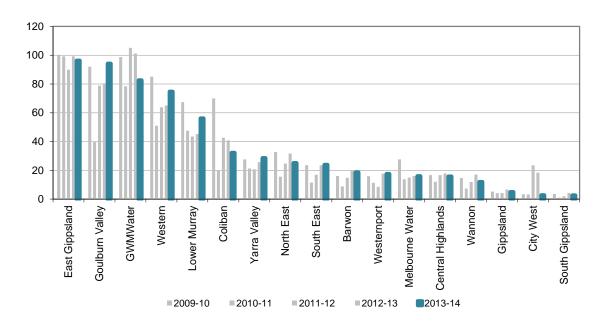
	2010-11	2011-12	2012-13	2013-14	Change in 2013-14	Percentage change
Melbourne Water	46 713	48 756	48 849	49 723	874	+2
City West	175	1 216	873	138	-735	-84
South East	1 653	2 277	3 106	2 967	-139	-4
Yarra Valley	2 425	2 319	2 687	3 135	447	+17
Barwon	1 997	3 483	4 790	5 008	218	+5
Central Highlands	1 410	1 628	1 971	1 683	-288	-15
Coliban	1 781	3 893	3 346	2 658	-688	-21
East Gippsland	2 511	2 469	2 959	2 903	-57	-2
Gippsland	1 113	1 128	1 651	1 104	-547	-33
Goulburn Valley	4 021	6 824	7 344	6 594	-750	-10
GWMWater	2 036	2 291	2 366	2 302	-64	-3
Lower Murray	2 735	2 456	2 491	3 202	711	+29
North East	1 312	1 959	2 203	1 895	-309	-14
South Gippsland	40	87	168	108	-60	-35
Wannon	825	1 248	1 490	1 251	-239	-16
Western	4 053	4 814	4 880	5 701	821	+17
Westernport	163	129	238	273	35	+14
TOTAL	74 964	86 976	91 413	90 644	-769	-1

City West Water recorded the most significant reduction in effluent reuse, down to only 138 megalitres (3 per cent) from 873 megalites (18 per cent) in 2012-13 and 1216 megalitres (24 per cent) in 2011-12. The recycled water facility attached to the Altona Sewage Treatment Plant was shut down temporarily and irrigation customers reduced demand in 2013-14.

As a percentage of available treated effluent, East Gippsland Water and Goulburn Valley Water recorded the highest reuse rates (96 per cent and 94 per cent respectively) (figure 7.1). By contrast, City West Water and South Gippsland Water recorded the lowest reuse rates (both 3 per cent) followed by Gippsland Water (5 per cent).

Overall, the distribution across the various effluent reuse categories was consistent with last year. Agriculture still accounted for the largest proportion of recycled effluent (38 per cent or 34 gigalitres), similar to 37 per cent in 2012-13. A further 20 gigalitres was reused in sewage treatment processes across the state, effectively backing out potable water use.

FIGURE 7.1 PROPORTION OF EFFLUENT REUSED (per cent)



#### 7.4 BIOSOLIDS REUSE

Organic sludge material, or biosolids, produced during the sewage treatment process is periodically removed from treatment plants and can be either stockpiled or disposed of. Disposal options include beneficial reuses such as organic rich fertiliser, or disposal as a non-reusable waste to landfill.

Under the reporting protocol, biosolids are produced when they are removed from the treatment process. It is therefore possible for a business to not produce any biosolids in a given year, by not desludging any of the lagoons or tanks where the sludge

accumulates. Two businesses, Goulburn Valley Water and GWMWater, reported zero biosolids produced in 2013-14.

In any given year, a water business can accumulate (stockpile) biosolids without disposing of any; therefore, a zero reuse figure does not necessarily imply a business does not reuse its biosolids. Correspondingly, reuse percentages over 100 per cent indicate businesses used some stockpiled material from previous years. To help produce a clearer picture of the longer term biosolids management for the businesses, figure 7.2 includes a four year average reuse figure, along with the current year's reuse as a percentage of this year's biosolids production. Businesses are ranked according to the four year average figure.

Total biosolids production was 88 900 tonnes, down from 117 400 tonnes in 2012-13, and 138 100 tonnes in 2011-12. Similarly, overall biosolids reuse of 38 800 tonnes was also lower than the 52 200 tonnes reused in 2012-13. But reuse as a proportion of the amount produced during the year remained steady at 44 per cent.

City West Water, Coliban Water and Gippsland Water reused all biosolids produced during the year, while South East Water, Barwon Water, Central Highlands Water, Westernport Water, Goulburn Valley Water and GWMWater reported higher quantities reused than produced, indicating they ran down stockpiled biosolids produced in previous years.

Figure 7.2 shows nine businesses have four year averages above or close to 100 per cent, indicating full reuse of biosolids over the longer term.

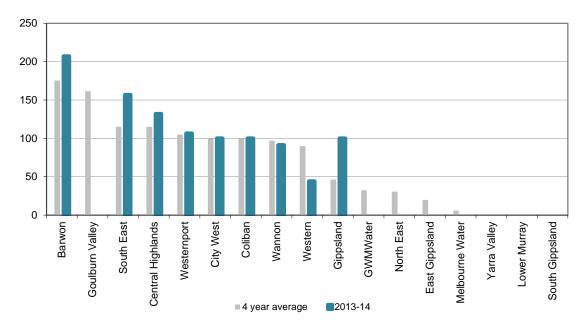
By contrast, three businesses (Yarra Valley Water, Lower Murray Water and South Gippsland Water) showed zero biosolids reuse over the longer term.

- Yarra Valley Water continued to stockpile biosolids material while investigating
  reuse opportunities, and in 2013-14 progressed a review of sewage treatment
  sludge management strategy, biosolids stockpiling and reuse. It is also working
  closely with industry working groups on a joint research project investigating the
  carbon sequestration value of biosolids land applications. It will use this research to
  inform potential reuse options.
- Lower Murray Water generates relatively small quantities of biosolids and continues to stockpile for a minimum of three years before beneficial reuse, to achieve the

required treatment grade and allow sufficient drying. It expects to reuse some stockpiled biosolids from the Mildura and Koorlong waste water treatment plants during 2014-15.

 South Gippsland Water continues to explore commercial reuse opportunities under EPA guidelines, and is stockpiling biosolids in the meantime.

FIGURE 7.2 PROPORTION OF BIOSOLIDS REUSED (per cent)



Note: The four year average refers to the proportions of biosolids reused between 2010-11 and 2013-14.

East Gippsland Water advised it reuses all its biosolids in the long term, but its lagoons are only desludged every 10 or so years. It reports an estimated annual sludge accumulation rate rather than the actual quantity of biosolids removed from lagoons, so the reuse rate of about 20 per cent shown in figure 7.2 does not represent the actual long term reuse rate.

#### 7.5 GREENHOUSE GAS EMISSIONS

Table 7.2 shows the net greenhouse gas emissions each business produced from 2010-11 to 2013-14 (after including any offsets the business claimed). The calculations for greenhouse gas emissions are based on the framework of the National Greenhouse and Energy Reporting Scheme (NGERS); Melbourne Water is the only business required to report to the Australian Government's Clean Energy Regulator.

Comparing different businesses' net carbon dioxide equivalent (CO<sub>2</sub>-e) emissions should be done cautiously given the differences in the nature of each operation, including:

- source of water
- gravity versus pumped networks
- geographical conditions (which influence pumping needs)
- the number of large customers and the extent of industry within the customer base
- the calculation method.

Similarly, variations in emissions per customer might reflect the differences between customer bases across businesses.

Net  $CO_2$ -e emissions for Victorian urban water businesses were 738 700 tonnes in 2013-14, a 3 per cent decrease from 765 300 tonnes in 2012-13 (table 7.2). The overall emissions per residential customer for all businesses in 2013-14 continued to fall, down to 0.32 tonnes from 0.34 tonnes in 2012-13 and 0.36 tonnes in the two years before that. Metropolitan businesses' emission rate fell to 0.25 tonnes per residential customer from 0.28 tonnes in 2012-13, while regional businesses' emissions remained steady at an average of 0.53 tonnes per residential customer.

With a relatively larger scale of operations, Melbourne Water was the largest net CO<sub>2</sub>-e emitter and accounted for almost half of the net total, despite reducing emissions by 10 per cent this year. Like last year, Goulburn Valley Water was the next largest emitter with 7 per cent of the total, closely followed by several other businesses. Goulburn Valley Water and North East Water again had the highest level of emissions per customer with 0.98 tonnes and 0.95 tonnes respectively.

GWMWater and Lower Murray Water had the largest net emission increases over the year, while most of the remaining businesses reported emissions within 10 per cent of last year's figure. By contrast, Melbourne Water reported the greatest reductions in net emissions, followed by Gippsland Water and South East Water.

**TABLE 7.2 HISTORIC NET GREENHOUSE GAS EMISSIONS** (equivalent tonnes of CO<sub>2</sub>)

	2010-11	2011-12	2012-13	2013-14	Percentage change	Per customer
Melbourne Water	371 760	361 288	378 785	339 137	-10	0.20
City West	-1 225	-1 651	9 841	10 310	+5	0.03
South East	31 361	33 554	40 211	36 645	<b>–</b> 9	0.06
Yarra Valley	29 041	28 361	29 512	32 708	+11	0.05
Barwon	57 170	56 422	37 960	39 943	+5	0.30
Central Highlands	18 782	14 797	14 567	16 271	+12	0.27
Coliban	32 674	33 126	33 017	31 648	-4	0.49
East Gippsland	8 687	8 378	8 442	8 098	-4	0.41
Gippsland	68 798	61 727	43 065	38 246	-11	0.64
Goulburn Valley	24 122	42 453	46 926	48 750	+4	0.98
GWMWater	15 590	10 778	11 966	20 401	+70	0.77
Lower Murray	22 820	34 922	11 166	17 366	+56	0.61
North East	35 671	38 432	39 637	41 521	+5	0.95
South Gippsland	12 560	8 154	7 550	6 872	<b>–</b> 9	0.42
Wannon	28 578	33 753	30 714	29 095	<b>-</b> 5	0.82
Western	21 620	17 287	15 644	15 217	-3	0.28
Westernport	4 344	7 315	6 259	6 471	+3	0.44
TOTAL	782 354	789 096	765 262	738 699	-3	0.32

**Note:** Emissions per customer for Melbourne Water is calculated using the total customers of City West Water, South East Water and Yarra Valley Water.

Table 7.3 shows the contributions to  $CO_2$ -e emissions by each water business activity. Sewage treatment processes remain by far the biggest contributor of greenhouse gas emissions and accounted for 73 per cent of the gross emissions (that is, not including offsets) in 2013-14, similar to the 75 per cent recorded in 2012-13. Next was water treatment processes, which were responsible for 21 per cent of the gross total.

Two metropolitan and five regional businesses reported CO<sub>2</sub>-e emissions offsets for 2013-14. Reported offsets were down 15 per cent in 2013-14 to 18 684 tonnes (from 21 891 tonnes in 2012-13). City West Water reported the largest reduction in offsets. The business aims to offset all energy associated with producing recycled water at the Altona Sewage Treatment Plant. The plant recycled less water in 2013-14, which reduced energy consumption and therefore carbon offsets.

Actual gross emissions also fell 3 per cent in 2013-14 to 757 383 tonnes from 787 153 tonnes in 2012-13, consistent with the reduction in net emissions.

**TABLE 7.3 SOURCES OF GREENHOUSE GAS EMISSIONS 2013-14** (equivalent tonnes of CO<sub>2</sub>)

	Water	Sewerage	Transport	Other	Offsets	Total <sup>a</sup>
Melbourne Water	52 500	277 335	2 066	7 236	0	339 137
City West	290	7 424	1 124	1 872	400	10 310
South East	5 322	29 451	1 445	2 163	1 736	36 645
Yarra Valley	7 399	22 108	1 043	2 158	0	32 708
Barwon	5 434	29 954	1 375	3 179	0	39 943
Central Highlands	4 268	10 140	928	950	15	16 271
Coliban	5 456	24 598	932	662	0	31 648
East Gippsland	3 809	3 836	228	225	0	8 098
Gippsland	10 228	24 774	1 474	1 771	0	38 246
Goulburn Valley	12 987	34 866	1 225	314	642	48 750
GWMWater	12 184	8 196	1 001	667	1 647	20 401
Lower Murray	7 437	11 445	378	346	2 240	17 366
North East	9 289	29 270	856	2 106	0	41 521
South Gippsland	1 664	4 421	652	135	0	6 872
Wannon	10 628	16 897	850	720	0	29 095
Western	8 551	16 186	635	1 849	12 004	15 217
Westernport	1 599	4 230	221	421	0	6 471
TOTAL	159 045	555 131	16 433	26 774	18 684	738 699

<sup>&</sup>lt;sup>a</sup> Total CO<sub>2</sub>-e emissions are net of offsets.

## 8 STATUS OF MAJOR PROJECTS

#### 8.1 BACKGROUND

In their pricing submissions for the 2013–18 pricing period, water businesses included their proposed major capital investment projects that were to be progressed or completed during the period. The Commission's final pricing determination for each business includes a scheduled list of these projects allowed for in pricing, along with the anticipated completion year.

Customers' prices include recovering capital investment costs in accordance with this approved project schedule. Therefore, it is appropriate water businesses explain delays or alterations to their project schedules, because approved funds will flow from pricing whether the expenditure is incurred or not.

This section tracks the businesses' progress against their original schedule of projects. Table 8.1 summarises the current status of each business's scheduled major projects for the 2013–18 pricing period. Table 8.2 provides more details for each scheduled project, including:

- a brief description or project name
- the original scheduled start and end years (as per the pricing determination)
- businesses' updates of the actual or expected start and end years
- an overall project status (on-schedule, delayed, deferred, cancelled or completed)
- general comments to explain any relevant details of the project and its current status.

The table also includes some projects from the 2008–13 pricing period that were not completed before the end of 2012-13, and were therefore carried over into the 2013–18 pricing period. We will monitor these projects through to their completion.

#### 8.2 CAPITAL EXPENDITURE IN 2013-14

In 2013-14, the Victorian urban water industry spent \$919 million on capital works. Capital expenditure on water was \$402 million and on sewerage was \$517 million. This amount includes ongoing capital works programs as well as the discrete major capital projects discussed below.

The Commission's approved pricing determinations for the 2013–18 pricing period include 100 major capital projects for the 17 urban water businesses. This number includes some projects that were originally included in the 2008–13 pricing period, but are now included on a new schedule for the current period.

Twelve of the 100 projects were completed in 2013-14, with another 49 projects proceeding on schedule. Twenty-one projects have encountered delays that will affect the final completion timeline. And only one year into the new period, water businesses have deferred 18 projects, which will now be completed either later in this period or in future periods. The project delays and deferrals are discussed below.

The pricing determinations listed 16 projects due for completion in 2013-14. Six of these were delayed and one deferred into the next pricing period, with only nine (56 per cent) completed on time. However GWMWater completed three projects due in 2014-15 ahead of schedule, producing the total of 12 completed projects for 2013-14.

Table 8.2 also includes 15 major projects carried over from the previous period that were not specified in the determinations for the current period. Of these, six were completed, with another six on schedule. Two were delayed, and one was deferred until later in the period because demand was lower than planned.

The major project status categories are:

- on-schedule no significant changes to the project start and end dates
- delayed either the project start was delayed, or completion will be later than scheduled

<sup>&</sup>lt;sup>1</sup> Many major capital investment projects that were underway and mostly completed at the end of the 2008–13 pricing period had incurred much of the expenditure. The remaining expenditure to be incurred in the 2013–18 pricing period did not put the project into the business's 'major project' category.

- deferred the business rescheduled the entire project, either within the current pricing period or into a future period
- cancelled the project will not proceed in the foreseeable future
- completed on time the project was completed in accordance with the original scheduled completion date (includes early completion)
- completed late the project was completed within the period, but later than the original scheduled completion date.

TABLE 8.1 SUMMARY OF SCHEDULED MAJOR PROJECTS — 2013–2018

	No. major projects scheduled for 2013–18	On- schedule	Delayed	Deferred	Suspended or cancelled	Completed on time	Completed late
Melbourne Water	6	4	2				
City West	4	2	1			1	
South East	6	3	2	1			
Yarra Valley	5		3	2			
Barwon	7	4		2		1	
Central Highlands	7	5		1		1	
Coliban	7	4	2			1	
East Gippsland	4	2		2			
Gippsland	3	2	1				
Goulburn Valley	6	2	3	1			
GWMWater	8	1	1	1		5	
Lower Murray	6	5				1	
North East	5	2	2	1			
South Gippsland	5	2	2			1	
Wannon	7	4	1	2			
Western	8	3		5			
Westernport	6	4	1			1	
TOTAL	100	49	21	18	0	12	0

#### **PROJECT DELAYS**

Project schedules can be delayed for a range of reasons, both internal and external to the water business. Projects might be delayed in the early stages for additional design or investigation work, or during construction due to unforeseen difficulties. External factors can be beyond the direct control of the water businesses, such as local government approvals or planning appeals, supplier issues, as well as weather impacts on construction.

Projects may also fall behind schedule simply because the project timeline is unrealistic, or is too tight with no allowance for any unforeseen delays.

Of the 21 projects listed as delayed this year, the reasons provided by the water businesses included:

- eight projects required further investigation or detailed design work
- four projects were delayed due to funding issues
- two projects encountered planning or permit issues
- one project encountered construction difficulties
- one project was affected by supplier issues.

Water businesses did not explain the delays for the remaining five projects, but these projects will all be completed within one year of the original target completion date.

#### **PROJECT DEFERRALS**

Deferring or cancelling projects does not necessarily reflect poor project management, but may in fact show prudent investment decisions if priorities changed or the need for a particular project no longer exists. Water businesses may reinvest the available capital funds by bringing forward other pressing projects, or they may choose to return the unrequired funds to customers through lower prices.

The water businesses identified the following reasons for deferring 18 projects:

- four projects were deferred because a provisional upgrade or alternate facility effectively 'bought time'
- eight projects were postponed because of slower than expected customer demand growth
- two projects were deferred following further analysis of the supply demand strategy
- three projects required additional time for further design or assessment of alternatives
- one project was delayed to avoid premature expenditure on land purchase.

#### Of the 18 projects:

- six were deferred 1–3 years and are still scheduled for completion within the 2013–18 pricing period
- 12 were deferred to the next pricing period.

By way of comparison, water businesses deferred 14 of 120 major projects scheduled for the 2008–13 pricing period to the 2013–18 pricing period or beyond. Another five were cancelled or suspended indefinitely due to changing requirements and circumstances.

TABLE 8.2 STATUS OF PROJECTS SCHEDULED FOR COMPLETION DURING 2013 TO 2018

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Melbourne Water						
St Albans-Werribee pipeline — stage 2	2013-14	2015-16	2014-15	2015-16	On schedule	With the design and procurement phases now completed and all approvals in place the project will enter construction phase in early October 2014. The project is expected to be completed on time and under budget in November 2015.
Water mains renewals — North Essendon–Footscray	2013-14	2015-16	2014-15	2016-17	Delayed	The project is in tender phase, with the exception of the Airport stage which was delayed slightly pending agreement of easements with the Federal Government.
Western Treatment Plant capacity augmentation — stage 2	2013-14	2016-17	2014-15	2018-19	Delayed	Execution of phase 1 contracts to three shortlisted proponents is due early in October 2014. The new completion date (August 2018) is a year later as more time is required to investigate innovative treatment solutions via pilot plant trialling (to reduce the project's capital cost).
Western Treatment Plant sludge drying augmentation	2013-14	2015-16	2013-14	2014-15	On schedule	The project is on track for completion in May 2015.
Water main renewals — Preston	2013-14	2016-17	2013-14	2016-17	On schedule	The functional design phase is due to begin later in 2014.
Sewer main rehabilitation — North Yarra	2013-14	2017-18	2013-14	2015-16	On schedule	The project will be completed under budget and ahead of schedule in July 2015.
City West Water						
Derrimut interceptor sewer	Carried over	2013-14	2006-07	2014-15	On schedule	The works are scheduled for completion in late October 2014. The gravity section of the works was commissioned in 2011; the rising main was completed in late 2012. The pumping station is currently in its testing and commissioning phase with completion expected in late October 2014.  The project was delayed by poor weather and by difficulties obtaining local government and third party approvals. Pumping station works were delayed further due to City West Water directing the contractor to prioritise two other key operational projects it was delivering for City West Water. The project is expected to be delivered within budget.

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
City West Water (cont)						
West Werribee dual water supply scheme	Carried over	2016-17	2010-11	2015-16	On schedule	The project is expected to be operational in 2015 and will provide supply to all customers currently connected to the scheme. Full operation won't be achieved until 2016-17 because part of the works is coordinated with the Regional Rail Link Project. However the rail link works do not affect supply to customers.
West Werribee low level reservoir and Werribee West — 750mm inlet/outlet main	Carried over	2016-17	2010-11	2014-15	On schedule	The 'Werribee West — 750mm inlet/outlet main' project was incorporated into the West Werribee low level reservoir project. The combined project will be significantly operational in 2014.
Office relocation	2013-14	2013-14	2013-14	2013-14	Completed	Practical completion of fit out works for the new Brooklyn Maintenance occurred in April 2014. Practical completion of the fit out for the new Footscray head office facility occurred in June 2014. Staff relocated from Sunshine to the Footscray office in July 2014.
Program Arrow	2013-14	2015-16	2011-12	2016-17 (R2)	Delayed	Program Arrow comprises three releases. Arrow Release 1 (Finance, Procurement, Contracts, Accounts Payable) went live successfully in August 2013. Arrow Release 2's (Asset and Field Management) estimated completion is September 2016. This delay was caused by a change in systems integrator. The Arrow Release 3 (Customer Care and Billing) completion date is yet to be determined.
Aquifer storage and recovery	2013-14	2017-18	2015-16	2015-16	On schedule	The ASR scheme is on schedule. Injection to the central bore will commence in 2015. City West Water expects it will take 2-3 years to grow the injection plume to the point the water can be extracted. Water extracted from the scheme will be used to supply peak demands.

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
City West Water (cont)						
Stormwater projects (various)	2013-14	2017-18	2010-11	2017-18	On schedule	The Laverton Recreational Reserve Stormwater Harvesting scheme is completed and will be functional for the 2014-15 irrigation period. At full capacity the scheme can deliver 88.8 megalitres per year of fit-for-purpose storm water.
						The Afton St Stormwater Harvesting scheme is scheduled to be completed by the end of October 2014. The scheme is to be commissioned in time for the 2014-15 irrigation period. At full capacity the scheme can deliver 20.2 megalitres per year of fit-for-purpose storm water.
						The Keilor Public Golf Course Stormwater Harvesting scheme is complete and will be functional for the 2014-15 irrigation period. At full capacity the scheme can deliver 42 megalitres per year of fit-for-purpose storm water.
						The Lake Caroline Stormwater Harvesting scheme is scheduled for completion in 2015-16. It is currently in design stage. At full capacity it will supply 52 megalitres per year of fit-for-purpose storm water.
South East Water						
Sherbrooke sewer backlog scheme reticulation	Carried over	2013-14	2013-14	2014-15	Delayed	The Belgrave Heights stage was completed in 2012-13. Reticulation construction is currently suspended due to poor ground conditions for the final Selby section of the Belgrave/Selby stage, with a forecast completion in 2015.
Pound Road sewerage pump station	2013-14	2013-14	2013-14	2014-15	Delayed	The Pound Road pump station is within a land development estate, and the project is substantially complete. The works are scheduled for completion in November 2014. Electricity connection and a substation to the site was delayed, deferring commissioning.

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
South East Water (cont)						
Cranbourne recycled water tank	2013-14	2013-14	2013-14	2014-15	Delayed	The project is in the final stages of completion and commissioning, with forecast completion now in April 2015.
Mt Martha treatment plant — long term sludge upgrade	2013-14	2014-15	2013-14	2014-15	On schedule	
Boneo treatment plant capacity upgrade	2013-14	2016-17	2016-17	2018-19	Deferred	An interim upgrade to the Boneo Treatment Plant is scheduled for completion in December 2014. Additional flow and load data analysis indicated growth (including the peninsula backlog currently under way) can be accommodated once this upgrade is completed. Plant capacity will be further upgraded as necessary to ensure South East Water is not exposed to any extreme risk of the plant failing compliance obligations.
Lang Lang treatment plant upgrade	2013-14	2016-17	2014-15	2016-17	On schedule	
Dromana–Portsea backlog scheme	2013-14	Beyond 2017-18	2013-14	2018-19	On schedule	Final reticulation and transfer main construction is currently underway, with Portsea, Sorrento and areas of Rye already completed and in operation. Forecast completion of reticulation and transfer main is late 2015, with property connections continuing beyond 2018.

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Yarra Valley Water						
Warrandyte North sewerage project	2013-14	2013-14	2014-15	2015-16	Delayed	Slower than expecting planning permission timeframes delayed the project's start. These issues are now resolved and construction works commenced. Completion of works is now expected by mid-2016.
Donvale sewerage project	2013-14	2015-16	2013-14	2016-17	Delayed	The design is currently 40 per cent complete. The project will be delivered through four separate construction packages to ensure efficient construction. The first package will be tendered in early 2015 with all construction works expected to be completed in 2016-17.
Amaroo branch sewer	2013-14	2016-17	2014-15	2017-18	Delayed	The detailed design is now 60 per cent complete. The construction tendering process commenced, with the expression of interest phase underway. The Department of Treasury and Finance approval for the project is well advanced (with approval expected in October 2014). Other stakeholder engagement works are progressing well. The project is on track for completion in 2017-18.
Lockerbie branch sewer	2013-14	2017-18	2018-19	2019-20	Deferred	The project was deferred following an upgrade of the Wallan Sewage Treatment Plant to accept additional flows and produce Class A recycled water. Completion is rescheduled for 2020. In addition, the treatment plant upgrade avoided construction of irrigation assets that would become redundant when the Lockerbie main sewer is commissioned.
Epping branch sewer tunnel	2016-17	Ongoing–2020	2016-17	2020-21	Deferred	The project is currently scheduled to be completed in 2021. Yarra Valley Water is monitoring the growth in flows to ensure the asset is delivered 'just in time'. Originally scheduled to commence construction in 2017-18, Yarra Valley Water now proposes to complete the design and confirm final estimated costs by 2016-17 with construction to commence in 2018-19. However, depending on growth rates, construction timing may be brought forward or moved back as required.

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Barwon Water						
Torquay West high level feeder main	2013-14	2013-14	2018-19	2020-21	Deferred	The project to construct the new feeder main to Torquay West is scheduled for the next pricing period, but Barwon Water intended purchasing the required land sooner before prices increased. However, land rezoning for the Spring Creek development has not yet been approved, so this land purchase was deferred until it is required. Barwon Water may bring this forward if the rezoning is approved.
Apollo Bay bulk water supply expansion	2013-14	2014-15	2010-11	2014-15	Completed	This project commenced during the 2008–13 pricing period, and carried over to the current period. The project was completed according to the revised schedule in January 2014.
Pettavel water basin upgrade	2013-14	2014-15	2013-14	2014-15	On schedule	The project is currently under construction and is anticipated to be completed in 2014-15.
Black Rock water reclamation plant hydraulic capacity upgrade	2013-14	2015-16	2013-14	2015-16	On schedule	The project is currently under construction and is anticipated to be completed in 2015-16.
West Lara transfer system	2013-14	2015-16	2013-14	2015-16	On schedule	The project is currently under construction and is anticipated to be completed in 2015-16.
Aireys Inlet pipeline (replaces Aireys Inlet Water Treatment Plant Upgrade)	2014-15	2016-17	2013-14	2015-16	On schedule	The board decided to abort the treatment plant upgrade option and to complete the pipeline option, given cost increases. The project is currently underway and is anticipated to be completed in 2016.
Inverleigh low level feeder main	2015-16	2017-18	2018-19	2020-21	Deferred	This project was deferred for several years, given considerably slower growth in Inverleigh and reduced peak demand. It will be considered for inclusion in the next pricing period, with anticipated completion in 2020-21.

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Central Highlands Water						
Blackwood sewerage	Carried over	Deferred to next pricing period	To be determined	To be determined	Delayed	A 12 month environmental sampling and monitoring program (which commenced in December 2013) is being undertaken to determine actual level of human waste pollution (if any) present in the receiving waterways. This environmental program will be completed during 2014-15 with options on the way forward to be developed during the current pricing period.
Lexton water supply project	2013-14	2013-14	2013-14	2013-14	Completed	Works are constructed and the system is now operational. It was completed on schedule in July 2014.
Living Victoria/Living Ballarat — Ballarat West aquifer storage and recovery project	2013-14	2014-15	2013-14	2014-15	On schedule	The aquifer recharge injection pilot and rooftop water quality collection program is complete. Technical assessment is progressing (including whole of water cycle management options for the potential future servicing of the Ballarat West Employment Zone) on schedule.
Ballarat South flow containment project — Ballarat South outfall sewer	2016-17	2017-18	2016-17	2017-18	On schedule	Detailed planning design works are scheduled to commence in 2015-16 with construction works to commence in 2016-17.
Ballarat South wastewater treatment plant augmentation works	2013-14	2017-18	2013-14	2017-18	On schedule	Central Highlands Water invested \$1.7 million in capital expenditure activities across the site during 2013-14. A further \$2 million is proposed for upgrade works in 2014-15 including commencing construction of a new 42 metre diameter clarifier.
Ballarat West urban growth zone	2013-14	2017-18	2013-14	2017-18	On schedule	Works are completed for the stage 1 Cuthberts Road water main in conjunction with council roadworks. The stage 2 Cuthberts Road is expected to be completed by November 2014. The Tait Street water main was brought forward from 2016-17 to 2014-15 to coincide with development requirements. Concept design works on the upgrade to the Kennedys Drive pump station are planned for 2014-15. Other works are being planned to coincide with land developments.

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Central Highlands Water (cont)						
Raw water pipeline replacement	2014-15	2017-18	2015-16	2016-17	Deferred	The program was deferred by one year to complete the preparatory work and finalise the concept design. This work is currently in progress and will support the detail design (to start in 2015-16) and construction (to start in 2016-17).
Maryborough water quality improvement project	2013-14	2017-18	2013-14	2017-18	On schedule	Technical assessment to develop the base case servicing strategy to improve water quality performance for the Maryborough water supply system is complete and initial stages of project procurement will commence during 2014-15.
Coliban Water						
Rochester wastewater connection to Echuca	2013-14	2013-14	2013-14	2013-14	Completed	The project was completed as expected.
Harcourt rural modernisation project	2013-14	2014-15	2012-13	2014-15	On schedule	The project commenced in 2012-13, and continues into the current pricing period, with works expected to be completed in January 2015.
Heathcote backlog sewerage	2013-14	2014-15	2016-17	2017-18	Delayed	The project is still in development and currently awaits business case approval. Implementation is now scheduled for 2017.
Echuca and Cohuna water treatment plant upgrades	2014-15	2015-16	2016-17	2017-18	Delayed	A gateway review is scheduled for 2014-15 to further develop the project need and to ensure identified solutions remain appropriate.
Coliban main channel	2013-14	2016-17	2015-16	2017-18	On schedule	Works are most likely to occur next channel off-season.
Cohuna water reclamation plant refurbishment	2016-17	2017-18	2016-17	2016-17	On schedule	Scheduled works are ongoing as planned.
Bridgewater and Laanecoorie water treatment plant upgrades	2014-15	2017-18	2014-15	2018-19	On schedule	The project is progressing on schedule.

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
East Gippsland Water						
Sarsfield — additional tank or liner	2013-14	2014-15	2019-20	2020-21	Deferred	This project was scheduled for construction in 2014-15. Further analysis of the Mitchell River Water Supply Demand Strategy deferred the project until the next pricing period. Related works will be completed in 2014-15.
Bairnsdale sewer master plan bridge sewer pump station	2013-14	2015-16	2013-14	2014-15	On schedule	This project requires construction of 3 kilometres of dedicated rising main from Bridge SPS to Bairnsdale WWTP. Design work started in 2013-14. The appprovals process is currently underway. Construction is now due for completion in 2014-15.
Paynesville main supply pipeline (stage 2)	2014-15	2015-16	2019-20	2020-21	Deferred	Recent analysis of the Mitchell River Water Supply Demand Strategy and risk assessment also deferred this project until the next pricing period.
Bairnsdale wastewater treatment plant upgrade	2014-15	2017-18	2014-15	2017-18	On schedule	Stage 1 works are in progress, with digester cleanout, and inlet screen works complete. Digester refurbishment is on schedule for completion during 2014-15. Subsequent stages of this project (including flow balancing, electrical upgrades, and digestate dewatering system) are on schedule for completion by the end of the current pricing period.
Gippsland Water						
Drouin wastewater treatment plant upgrade	Carried over	2015-16	2015-16	2015-16	On schedule	The project provides screens and grit removal at the Drouin WWTP to remove inert solids and hence improve the treatment capacity of the lagoons.
Sale water treatment plant upgrade	2013-14	2014-15	2013-14	2015-16	Delayed	Project involves replacing ageing aeration towers and non-compliant chemical storage delivery and handling facilities. Part 1 of a plant upgrade to improve water quality.
Warragul-Hazel Creek trunk sewer (stage three)	2013-14	2014-15	2013-14	2014-15	On schedule	Contract signed end July 2014. Construction works have begun with early works underway in September 2014 to make way for gas relocations. Currently the project is on track for completion by end of April 2015.

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Gippsland Water (cont)						
Loch Sport sewerage scheme	2013-14	2016-17	2012-13	2015-16	On schedule	The project planning and design is complete, and construction commenced in early 2013. All key construction contracts were in place by October 2013 and the project is on target to be completed and ready for service in October 2015 as scheduled.
Goulburn Valley Water						
Cobram — MGC unfluoridated water pipeline	2013-14	2014-15	2013-14	2017-18	Delayed	The majority of expenditure associated with this project will be funded by parties external to Goulburn Valley Water. The project will not proceed until the external funding arrangements are finalised. The project is currently scheduled for completion in 2017-18 but may be brought forward once funding arrangements are finalised.
Kilmore wastewater management facility additional winter storage	2014-15	2015-16	2013-14	2017-18	Delayed	Planning and design stages are substantially completed for a base project option. An alternative innovative option was identified, which involves environmental offsets rather than constructing infrastructure. Implementing the base project option is on hold until the alternative option is evaluated.
Mansfield wastewater management facility additional winter storage	2014-15	2015-16	2013-14	2018-19	Delayed	Planning and design stages are substantially completed for a base project option. The base case requires significant land acquisition. An alternative innovative option was identified, which involves environmental offsets rather than constructing infrastructure. Implementing the base project option is on hold until the alternative option is evaluated.
Marysville new water treatment plant	2013-14	2015-16	2013-14	2014-15	On schedule	Construction works are currently in progress and the project is on schedule to be completed during 2014-15.
Shepparton water treatment plant upgrade	2014-15	2017-18	2017-18	2019-20	Deferred	The water treatment plant capacity upgrade works were deferred following the successful implementation of plant optimisation works. Water quality improvement works are still required, but were deferred to commence in 2017-18.

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Goulburn Valley Water (cont)						
Numurkah water treatment plant upgrade	2013-14	2015-16	2013-14	2015-16	On schedule	A construction contract was awarded recently and the project is on schedule to be completed during 2015-16.
GWMWater						
Nhill Treated water supply	Carried over	2013-14	2013-14	2013-14	Completed	This project was completed in October 2013.
Jeparit treated water supply	Carried over	2013-14	2013-14	2014-15	Completed	This project was completed, with treated water supply to Jeparit available from August 2014.
Intelligent rural pipeline networks	2013-14	2013-14	2013-14	2014-15	Delayed	Project planning, the tendering process and finalising funding agreements delayed the commencement of this project.
Irrigation network decommissioning	2013-14	2014-15	2013-14	2014-15	On schedule	This project was delivered over 2013-14 and 2014-15, as scheduled, and will be completed late 2014.
Rupanyup sewerage scheme	2013-14	2014-15	2014-15	2014-15	Completed	This project was completed in October 2014.
Upgrade of Donald wastewater and reuse system	2015-16	2015-16	2018-19	2018-19	Deferred	This project was deferred subject to investigating the impact of works to reduce infiltration. It is now expected to be scheduled early in the next pricing period.
Donald treated water supply	2013-14	2014-15	2013-14	2013-14	Completed	This project is completed, with treated water supply to Donald available from June 2014.
Wycheproof treated water supply	2013-14	2013-14	2013-14	2013-14	Completed	This project is completed, with treated water supply to Wycheproof available from June 2014.
Rupanyup treated water supply	2013-14	2014-15	2013-14	2013-14	Completed	The project is completed, with treated water supply to Rupanyup available from June 2014.
Minyip treated water supply	2013-14	2013-14	2013-14	2013-14	Completed	This project is completed, with treated water supply to Minyip available from June 2014.

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Lower Murray Water						
Mildura Trunk Extension	Carried over	2014-15	2014-15	2018-19	On schedule	<ul> <li>The Mildura water supply 14<sup>th</sup> Street trunk main extension project was deferred because demand was lower than planned. It is now proceeding in three stages.</li> <li>Stage 1: project design complete, contract awarded, awaiting materials delivery, scheduled for construction November 2014 – March 2015.</li> <li>Stage 2: project design in progress, planned for construction July 2015 – December 2015.</li> <li>Stage 3: project design in progress, planned for construction 2018-19 (to align with relocation of 14<sup>th</sup> Street tower project).</li> </ul>
Relocation of 14 <sup>th</sup> Street tower	Carried over	2018-19	2017-18	2018-19	Deferred	This project was deferred during the 2008–13 pricing period because demand was lower than planned. The project is now scheduled to start in 2017-18 with expected completion in 2018-19.
Mildura water supply strategy	2015-16	2015-16	2015-16	2015-16	On schedule	This project involves two major stages. Stage 1 (Riverside Avenue) is scheduled to commence in July 2015 and finish March 2016. Stage 2 (Benetook and Cureton Avenues) is scheduled to commence in November 2015 and finish in June 2016.
Red Cliffs WTP upgrade	2013-14	2014-15	2013-14	2014-15	On schedule	The project design is complete, contracts are awarded and construction works are in progress. Construction is scheduled from April 2014 to February 2015.
WTP water quality improvements	2013-14	2016-17	2011-12	2016-17	On schedule	This is a program of works across several water treatment plants, which began in 2011-12 and will be undertaken progressively over the 2013–18 pricing period. Robinvale WTP commenced in 2011-12. Mildura 7 <sup>th</sup> Street WTP commenced in 2012-13 and is scheduled for completion in 2014-15. Swan Hill WTP will commence in 2014-15 and finish in 2015-16. Finally, Kerang WTP will commence in 2015-16 and finish in 2016-17.

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Lower Murray Water (cont)						
WTP PLC replacement	2013-14	2016-17	2011-12	2016-17	On schedule	This is a program of works to be conducted in parallel with the WTP water quality improvements project, following the same timeline as described above.
Mildura emergency sewer overflow storages	2012-13	2013-14	2012-13	2013-14	Completed	Project works were completed on schedule in March 2014.
Merebin sewage diversion to Koorlong WWTP	2016-17	2017-18	2016-17	2017-18	On schedule	The project is scheduled to commence in January 2017 for completion in March 2018, in line with original budget timing.
North East Water						
North Wangaratta reclaimed water	Carried over	June 2014	2012-13	2013-14	Completed	Construction of a 300 megalitre winter storage, pump line, pump station and irrigation systems were completed in July 2014 and are now operational.
Bright off-river storage	2013-14	2013-14	2010-11	2014-15	Delayed	This project was put on hold in January 2011, following the Minister's request for a review of the site selection process. North East Water issued a report in February 2011 and the Minister decided in late September 2011 to allow the project to progress through to the planning stage. transfer main and off-stream storage projects were awarded in June 2013 and September 2013 respectively. The transfer main sub-project is now completed. The storage dam is scheduled for completion in November 2014 after experiencing wet weather construction delays.

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
North East Water (cont)						
Servicing unserviced communities (small towns) — Moyhu sewerage system	2013-14	2014-15	2013-14	2015-16	Delayed	This is an innovative STED (septic tank effluent drainage system) treatment and reuse project. The reticulation system is designed and the procurement stage is underway. Community option of local treatment and disposal through landscaped infiltration beds at the recreation reserve is not viable due to low permeability of the local soils. North East Water reviewed treatment and disposal options, preferring to move to adsorption fields out of town on a larger site. Treatment option component approvals are now being sought from EPA.
Yackandandah reclaimed water management	2013-14	2016-17	2018-19	2020-21	Deferred	This project was deferred to the next pricing period. An ecological risk assessment (ERA) process is to be completed for discharges from the site to determine the potential impact of the receiving environment and beneficial uses, to inform whether a longer term discharge option is more viable than the current option.
Bright water treatment plant	2013-14	2017-18	2013-14	2015-16	On schedule	This project was brought forward from the original target of completion in 2017-18. The water treatment plant and clear water storage projects are now in their final stages of initial system definition and are tracking to the new schedule. Anticipated completion is June 2016.
Wangaratta wastewater treatment stage 1 upgrade	2014-15	2017-18	2014-15	2017-18	On schedule	This project is at the initial systems definition stage of development.
Beechworth clearwater storage tank ***NEW PROJECT ***	Next pricing period	Next pricing period	2014-15	2015-16	On schedule	This project is required to ensure the township of Beechworth has sufficient storage of safe drinking water to meet peak daily demand. The project was identified when developing the pricing submission for the 2013–18 pricing period capital works scope, and only just fell outside the suite of projects to be included. The project was reprioritised, bringing it forward to the current pricing period.

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
South Gippsland Water						
Wonthaggi wastewater strategy works	Carried over	2013-2014	2010-11	2014-15	On schedule	Installation of probiotics low energy aeration system in the lead lagoon was completed in February 2011. South Gippsland Water will construct a sludge drying pan and purchase mechanical sludge removal equipment to effectively remove sludge from existing Wonthaggi Wastewater Treatment Plant lagoons. This part of the project incurred delays in acquiring Crown land for the new facilities in 2011-12, and was also delayed by wet weather throughout 2012-13. The remaining component of the project is now underway again, and is expected to be completed by December 2014.
Agnes River augmentation — construction of off-stream storage (Replaced by Central Towns strategy)	Carried over	2015-2016	2013-14	2013-14	Completed	This project related to the feasibility of the Central Towns strategy, which is now complete. The augmentation project is not necessary until at least the next pricing period.
Leongatha wastewater treatment plant — refurbish decommissioned digestive system	2013-14	2013-14	2013-14	2013-14	Completed	The project was commissioned in September 2014.
Poowong/Loch/Nyora sewerage scheme	2013-14	2017-18	2014-15	2015-16	On schedule	The project was deferred in 2013-14 while options were reviewed. The preferred delivery method was identified in March 2014 and the contract was executed. The project is being delivered in collaboration with South East Water, and commenced in July 2014, to be completed by June 2016 (two years ahead of the 2017-18 schedule).
Foster wastewater treatment plant — rising main pipeline and storage	2017-18	2017-18	2017-18	2017-18	On schedule	The project is due to commence in November 2017.
Northern towns supply connection works — Lance Creek to Korumburra	2015-16	2017-18	2016-17	2017-18	Delayed	The project did not receive funding in the 2014-15 State Budget. South Gippsland Water will apply for funding in the 2015-16 State Budget. The project is shovel-ready.
Northern towns supply connection works — Korumburra to Poowong	2016-17	2017-18	2017-18	2017-18	Delayed	The project did not receive funding in the 2014-15 State Budget. South Gippsland Water will apply for funding in the 2015-16 State Budget. The project is shovel-ready.

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Wannon Water						
West Portland sewerage services	Carried over	2013-14	2011-12	2014-15	Completed	This project was completed in 2014. The delay was due to planning appeals at VCAT, wet weather and difficult ground conditions impacting constructability.
Dutton Way sewerage and water services	Carried over	2013-14	2012-13	2013-14	Completed	This project is now complete. Customers have commenced connecting their internal plumbing to the new services.
Curdie Vale bore construction	2013-14	2013-14	2013-14	2014-15	Delayed	This project is nearing completion. Works to connect the bore into the system will be complete in October 2014, with project completion expected by the end of November 2014.
Construct new bore at Wyatt St Portland	2014-15	2014-15	2014-15	2014-15	On schedule	This project is scheduled to be complete by end June 2015. The bore design is nearing completion and it is anticipated construction contracts will be let by end December 2014.
Casterton water treatment plant clarifier	2014-15	2015-16	2014-15	2016-17	On schedule	This project is in the design and planning stage. It is anticipated the design and construction contract will be let in early 2015-16.
Water tower and pump station in Wollaston Road Warrnambool	2014-15	2015-16	2016-17	2017-18	Deferred	This project was deferred for two years because demand growth softened. A temporary water supply was implemented, which satisfies the short term requirements within this development.
Water tower and pump station in Wangoom Road Warrnambool	2014-15	2016-17	2016-17	2017-18	Deferred	This project was deferred for a year because demand growth softened.
Heywood and Hamilton water reclamation plant irrigation works	2015-16	2016-17	2013-14	2017-18	On schedule	This project is on schedule, but Wannon Water is investigating alterative options with lower cost.
Cobden and Casterton water reclamation plant irrigation works	2014-15	2017-18	2014-15	2016-17	On schedule	This project is on schedule, but Wannon Water is investigating alterative options with lower cost.
Portland reclamation plant wind energy project ***New project***	2014-15	2015-16	2014-15	2015-16	On schedule	This is a new major project (not initially included in the pricing submission). It is currently in the planning stage, and is expected to deliver a significant reduction in energy costs at the site.

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Western Water						
Rockbank outfall sewer (rising main)	2013-14	2014-15	2013-14	2017-18	Deferred	Detailed design is 75 per cent complete. Completion of design and subsequent construction was deferred due to Fair Water Bills and slower growth.
Surbiton Park RWP upgrade (digester)	2013-14	2014-15	2013-14	2017-18	Deferred	Expressions of interest have been received. Progression to tender and construction was deferred due to Fair Water Bills and slower growth.
Melton Class A RWP upgrade	2015-16	2016-17	2018-19	2020-21	Deferred	The project was deferred due to Fair Water Bills and slower growth.
Sunbury additional water storage — Bald Hill tank	2013-14	2016-17	2013-14	2018-19	Deferred	Site selection is continuing. Land acquisition and construction was deferred due to Fair Water Bills and slower growth.
Sunbury recycled water plant (RWP) upgrade	2013-14	2016-17	2013-14	2016-17	On schedule	The Treasurer approved the business case in 2014-15. Expressions of interest were called in October 2014.
Bacchus Marsh RWP winter storage lagoon	2016-17	2017-18	2016-17	2017-18	On schedule	
Bacchus Marsh rising main	2017-18	2017-18	2010-11	2020-21	Deferred	This project is to provide some redundancy and capacity increase of a critical asset. The project can be deferred to the next pricing period because other projects reduced the catchment and testing found the main was in better condition than expected.
Bacchus Marsh sewer rising main Geelong Road	2016-17	2017-18	2012-13	2017-18	On schedule	Detailed design commenced early in case growth exceeded expectations, and is now 75 per cent complete.

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Westernport Water						
Candowie upgrade project	2013-14	2013-14	2013-14	2013-14	Completed	The project was completed in July 2013. The reservoir capacity is now doubled to 4463 megalitres, and it reached the new full supply level in September 2013.
Cowes wastewater reticulation — upgrade pump stations	2014-15	2014-15	2014-15	2015-16	On schedule	The Church Street upgrade will proceed over 2014-15 and the Chapel Street upgrade is scheduled for completion in 2015-16.
Ian Bartlett water purification plant tertiary treatment	2015-16	2015-16	2015-16	2016-17	Delayed	The scope is being reviewed in 2014-15. A functional design for tertiary ultraviolet treatment was completed to address cryptosporidium and giardia. A further study on the preferred tertiary treatment process will be undertaken to extend the process to address taste and odour compounds (MIB and Geosmin).
Cowes wastewater reticulation — new rising mains	2016-17	2017-18	2016-17	2017-18	On schedule	Current timelines remain unchanged. The project is being reviewed over 2014-15 and changes in delivery schedule and quantum may be implemented.
San Remo basin cover replacement	2016-17	2017-18	2016-17	2017-18	On schedule	Current timelines remain unchanged. The project is being reviewed over 2014-15 and changes in delivery schedule and quantum may be implemented.
Cowes wastewater treatment plant upgrade	2013-14	2017-18	2013-14	2017-18	On schedule	The project commenced late 2013-14 and is on schedule.