



WATER PERFORMANCE REPORT

PERFORMANCE OF URBAN WATER AND
SEWERAGE BUSINESSES 2010-11

DECEMBER 2011



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PERFORMANCE OVERVIEW 2010-11

2010-11 was a challenging year for the Victorian water businesses. In mid-2010, the decade-long drought that had seen the state's water supplies diminishing rapidly appeared to break, with a return to more traditional rainfall levels and patterns. Distressed catchments, particularly in the regional areas, received welcome inflows to reservoirs, securing short term water supply to customers.

The 2010-11 summer was one of the wettest on record; a number of extreme rainfall events produced major flooding across vast sections of the state. Catchments and reservoirs in northern parts of the state were inundated, whole townships were flooded or isolated for days or weeks, and some areas experienced more than one flood event. Other areas of the state, including metropolitan Melbourne, escaped major flooding but sewerage systems were tested by several severe storms that produced extreme rainfall.

This year's performance results reported by the water businesses reveal the rainfall and flooding significantly affected many key indicators:

- Demand for water fell, despite water restrictions being eased or lifted across most of the state.
- Demand for recycled water fell by 35 per cent, particularly for agricultural uses, because regular rainfall kept land wet and private storages well stocked.
- Complaints for water quality increased in areas where water supplies were affected by the rains and floods, which also affected drinking water quality compliance for some businesses.
- Sewage volumes rose by 20 per cent because systems were inundated by rainfall and flooding.
- Construction project schedules were affected by rain and wetter seasons across the year

Notwithstanding these climate and rainfall issues, customers generally received improved services from their water suppliers in 2010-11. Water businesses continued to implement major capital works to improve supply reliability and service standards. Many of the key performance indicators discussed in this report improved.

High rainfall and flooding affected many performance indicators across the state



The Commission is pleased that the new Guaranteed Service Level for Hardship, introduced in 2010, is already having an effect: the number of customers with water supply restricted for nonpayment fell in 2010-11. At a time of increased community concern about rising household costs, it is pleasing to see the water industry responding to the challenge of better managing their customers with payment difficulties.

In general, the water businesses have reported better outcomes in customer responsiveness when compared with the Victorian energy retail sector.

Household consumption

Weighted average annual household water consumption across Victoria fell 6 per cent from 152 kilolitres in 2009-10 to 143 kilolitres in 2010-11, a new historic low. All businesses reported lower consumption, despite restrictions generally easing. The largest decreases were experienced in the northern regions most affected by floods and rainfall.

Water use fell by
6 per cent

Household bills

Average annual household bills were higher in 2010-11 in real terms than in 2009-10 for all water businesses, except Lower Murray Water (where higher prices were offset by larger reductions in water use). The household bills for owner-occupiers ranged from \$662 to \$1098.

By contrast, average household bills for tenants, who are not billed fixed charges, ranged from \$93 to \$380 in 2010-11.

Dealing with hardship

The rate of domestic instalment plans increased for 12 of the 16 businesses, but the overall rate across all water businesses decreased slightly from 5.7 per 100 customers in 2009-10 to 5.5 in 2010-11. This largely reflected the 40 per cent reduction in instalment plans for Yarra Valley Water.

There was a 36 per cent reduction in the number of domestic customers who had their water supply restricted for nonpayment. For non-domestic customers, there was a fall of almost 50 per cent. Altogether 2068 domestic customers had their water supply restricted for nonpayment of water bills, down from 3236 in 2009-10. This included fewer customers on concession (down from 555 to 359).

Legal actions against domestic customers decreased slightly from 684 in 2009-10 to 661 in 2010-11. The average debt level before initiating legal proceedings rose slightly, and is well above the minimum of \$200.

While household
bills increased,
management of
payment
difficulties
improved



Customer complaints

In 2010-11, Energy and Water Ombudsman (Victoria) received 1731 complaints and 197 enquiries about metropolitan and regional urban businesses, compared with 1449 complaints and 151 enquiries in 2009-10.

Businesses reported 13 501 complaints, representing a 0.3 per cent decrease from 2009-10. This equates to a rate of 0.57 complaints per 100 customers across the state.

Network reliability

Overall water supply reliability, measured by average customer minutes off supply, decreased slightly from 28 minutes in 2009-10 to 29 minutes in 2010-11. This result included the effect of outages caused by major flooding.

The rate of interruptions to water supply improved from 39 per 100 kilometres of water main in 2009-10 to 36 in 2010-11. This improvement was due in part to ongoing rainfall across the summer, resulting in reduced soil movement and less pipe damage.

The rate of sewer blockages improved, falling from 31 blockages per 100 kilometres of sewer main in 2009-10 to 25 in 2010-11. As with water mains, the reduction is likely to be the result of less soil movement due to climatic conditions. This is also a good result considering the additional volumes through sewer systems during extreme rainfall events.

The rate of sewer spills also improved, down from 15.1 per 100 kilometres of sewer main in 2009-10 to 13.3 in 2010-11.

Water quality

Fourteen of the 16 urban water businesses delivered water to customers that met *E. coli* requirements set out in the Safe Drinking Water Regulations 2005. Central Highlands Water and Coliban Water each recorded a minor noncompliance in one of their smaller towns.

All urban businesses, except GWMWater, delivered water that met the turbidity requirements set out in the Safe Drinking Water Regulations. Poor water supply quality following the floods led to noncompliances in 11 of GWMWater's 35 drinking water supply zones, with 11 per cent of customers affected.

Water quality complaints fell from a rate of 0.29 complaints per 100 customers in 2009-10 to 0.26 in 2010-11.

Water and
sewerage system
reliability was
maintained

Compliance with
water quality
standards
remained high



Environmental performance

The total volume of sewage treated in Victoria in 2010-11 was 496 988 megalitres. This was a 19 per cent increase over the 2009-10 volume of 416 539 megalitres.

The proportion of total effluent produced in Victoria that was reused almost halved, falling from 29 per cent in 2009-10 to 15 per cent in 2010-11. Part of this reflected the 19 per cent increase in total effluent produced by the much higher rainfall. Actual effluent reuse fell by 35 per cent, down to 74 964 megalitres compared with 115 071 megalitres in 2009-10. This reflected the fall in demand for recycled water for agricultural uses, because there was abundant surface water available.

Demand for recycled water decreased

Total net carbon dioxide equivalent (CO₂-e) emissions reported by the Victorian urban water businesses in 2010-11 was 782 354 tonnes, lower than the 822 160 tonnes reported in 2009-10.

Major projects

Water businesses undertook a significant amount of capital works during 2010-11, with expenditure of \$1.64 billion during the year.

Forty-six major projects had been identified for completion in 2010-11 — these were either initially scheduled for completion this year in the last price review, or delayed from previous years. Twenty-one of these projects were completed in 2010-11, with a further five substantially completed. Of the remaining 20 projects, 17 are delayed while three have been deferred in the long term or cancelled due to changes to needs and priorities.

This report

This is the seventh 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 incorporates data provided and independently verified for the 13 regional businesses, three metropolitan retailers and Melbourne Water for the 12 months to June 2011.

The 2010-11 performance report comprises a suite of performance reporting documents that seek to provide reliable and consistent information. This can be used to inform community discussion, identify shifts in performance outcomes, and stimulate 'competition by comparison' between the water businesses. The performance indicator figures were updated this year to provide a better time series for many key indicators. This makes it easier to identify performance trends for each individual business, as well as a comparison across the industry as a whole.



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

The report and associated release includes a detailed performance report, a summary for each business, an industry summary, and data spreadsheets with all reported information for those who wish to interrogate the data further. These documents are all available on our website at www.esc.vic.gov.au

Through 2012, the Commission will be undertaking work to enhance our performance reporting. This includes questioning what we measure and report on, and how performance reporting can help to deliver better outcomes for consumers in terms of services and prices.

Looking forward, as water businesses begin to develop their business plans for the third regulatory period (known as Water Plan 3), there is a need to continually look for opportunities to better meet customer needs – be it in terms of services and/or prices.





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 report publicly on the performance of Victorian water businesses.

The Commission's public monitoring and reporting role 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 businesses to improve their own performance over time
- allow comparisons to be made between businesses and thereby facilitate competition by comparison, which can encourage businesses to further improve their performance relative to others
- inform the decision making processes of regulated businesses, regulatory agencies and Government.

The Commission also reports on the performance of the energy retail businesses in Victoria. Experience gained from reporting across both the energy and water sectors suggests that public disclosure and performance reporting can be a strong driver to improve performance.

This is the Commission's seventh annual report on the performance of all Victorian urban water businesses, which commenced for the 2004-05 period. Performance reporting from 1995 through to 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 (GMMWater), 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).

The Commission is required to monitor and publicly report on the water sector



This report covers the businesses' performance over the 2010-11 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 that it is accurate and reliable. Water businesses were invited to provide comment on various aspects of their performance, and these comments have been incorporated into the report.

1.2 The scope of this report

This report focuses on indicators in a number of key performance areas including:

- **usage, price trends and payment management** — including the size of household bills, consumption levels, and the management of 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 discharge compliance with Environment Protection Authority (EPA) licences for sewage treatment plants, 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** — for projects scheduled for completion this year.

This report does not include information on the rural water businesses that supply irrigation, drainage, diversion, storage operator and bulk water services. The Commission has a separate set of performance indicators and a national reporting framework applies to these businesses.

1.3 The Commission's role in regulating service standards

The Commission is not responsible for regulating or driving performance in the areas of water conservation, the environment and water quality. For example, the EPA is responsible for regulating environmental standards and the Department of Health is responsible for drinking water quality 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 the delivery of services to both metropolitan and regional urban customers. The Code sets out service obligations for key matters including connection and service provision, charges, handling of complaints and disputes, billing, payment of bills, collection of outstanding bills, actions for nonpayment, quality of supply, reliability of supply, disconnection, 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
- 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 faced by each business 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 the businesses' performance over the regulatory period.
- A requirement that each business maintain a Customer Charter that informs customers about the services that it offers, the respective rights and responsibilities of the business and its customers, and the service standards that the business proposes to deliver over the regulatory period.

The Customer Service Code is published on our website

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

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 provided by the businesses explaining their performance
- the findings of regulatory audits on the reliability of the performance indicator data reported by the businesses.

We undertake regulatory audits to ensure the integrity of the reported performance data





2 OVERVIEW OF THE WATER INDUSTRY

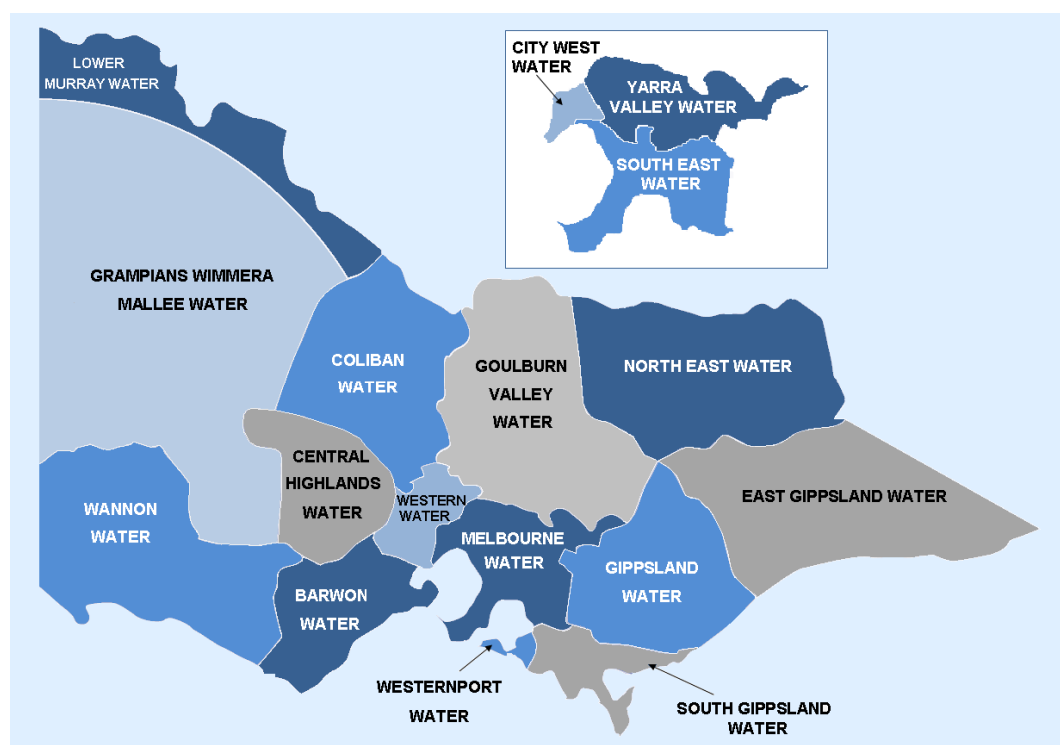
The Victorian water businesses are diverse in terms of size, the services they provide and the environments in which they operate. The Commission accounts for this diversity when developing its regulatory approach.

The three key components of the water sector that 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 (GMMWater), Lower Murray Water, North East Water, South Gippsland Water, Wannon Water, Western Water, Westernport Water
- the rural water sector comprising Goulburn Murray Water and Southern Rural Water. GMMWater and Lower Murray Water provide rural water services in addition to urban water services.

A map of the Victorian water sector is provided in figure 2.1.

Figure 2.1 Victorian water businesses 2010-11





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 1.7 million customers. This represents over 70 per cent of the state's population and accounts for around 10 per cent of total 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.

Victoria's 16 urban water businesses serviced 2.4 million customers using 45 300 km of water mains and 35 600 km of sewer main.

Table 2.1 Metropolitan water businesses — overview

	Water customers (no.)	Sewerage Customers (no.)	Length of water main (km)	Length of sewer main (km)
City West	368 261	364 835	4 506	3 980
South East	656 324	623 835	8 831	8 438
Yarra Valley	699 768	646 775	9 490	9 004
Melbourne Water	na	na	1 276	335



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 and their customers are generally dispersed across broader geographical regions. Water use in regional urban areas accounts for about 9 per cent of total 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 – overview

	Water customers (no.)	Sewerage customers (no.)	Length of water main (km)	Length of sewer main (km)
Barwon	137 305	123 628	3 670	2 338
Central Highlands	61 581	51 607	2 404	1 258
Coliban	66 722	58 353	2 128	1 783
East Gippsland	21 501	17 906	899	610
Gippsland	63 588	52 690	2 041	1 553
Goulburn Valley	53 830	47 218	1 751	1 207
GWMWater	31 041	25 058	1 041	650
Lower Murray	31 484	27 148	899	623
North East	46 159	40 602	1 625	1 086
South Gippsland	18 671	15 675	689	415
Wannon	40 671	34 251	1 821	886
Western	52 565	46 628	1 804	1 120
Westernport	15 104	13 715	425	337





3 USAGE, PRICE TRENDS AND PAYMENT MANAGEMENT

3.1 Background

Affordability of water, sewerage and other related services is a key indicator of performance for customers. The affordability of water and sewerage services 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
- whether businesses use restrictions for nonpayment or take legal action against customers who are experiencing payment difficulties.

The Commission is responsible for approving prices for urban water and sewerage, rural water and other prescribed services. In June 2008 the Commission approved prices for regional and rural businesses for a five-year regulatory period (from 2008-09 to 2012-13), and metropolitan prices for 2008-09 for the three metropolitan retailers and Melbourne Water. In June 2009, the Commission approved prices for the remaining four years of the regulatory period (from 2009-10 to 2012-13) for the metropolitan water businesses.

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).

The Commission's Customer Service Code (the Code) includes specified 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 2010 and 30 June 2011
- number of customers on instalment payment plans
- number of customers receiving government assistance through concession payments and



the URGS operated by the Victorian Government

- number of restrictions 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 Prices 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 provide households with the capacity 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, to provide additional incentives for customers to reduce their discretionary water use. The water businesses charging an inclining block tariff structure in 2010-11 were City West Water, South East Water, Yarra Valley Water, Central Highlands Water, Coliban Water, Lower Murray Water, Wannon Water, Western Water and Westernport Water. The other seven urban water service providers have flat variable water usage charges.

Water businesses' prices are effectively predetermined through their approved Water Plans for the current five-year regulatory period, 2008-09 to 2012-13. Each year, the Commission reviews the proposed price increases to ensure that they are still appropriate for each business, and approves the annual increment including the consumer price index (CPI) component. Annual price increases for a particular business may vary across the regulatory period, hence the relative increases for various businesses may differ each year. Some businesses had larger increases built in at the front end of the regulatory period, while others had relatively small increases early on with larger increases during the later years.

3.3 Average annual household consumption

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

Weighted average annual household consumption across Victoria fell from 152 kilolitres in 2009-10 to 143 kilolitres in 2010-11. This continues the decline in annual household consumption since 2006-07, when the average household consumption was 180 kilolitres. Consumption fell over this time due to water restrictions affecting much of the population and a strong conservation message. Additionally, there was a higher than average spread of rainfall across the year in 2010-11, including a number of extreme rain events. A cooler summer also contributed to lower consumption, particularly in some of the regional areas.

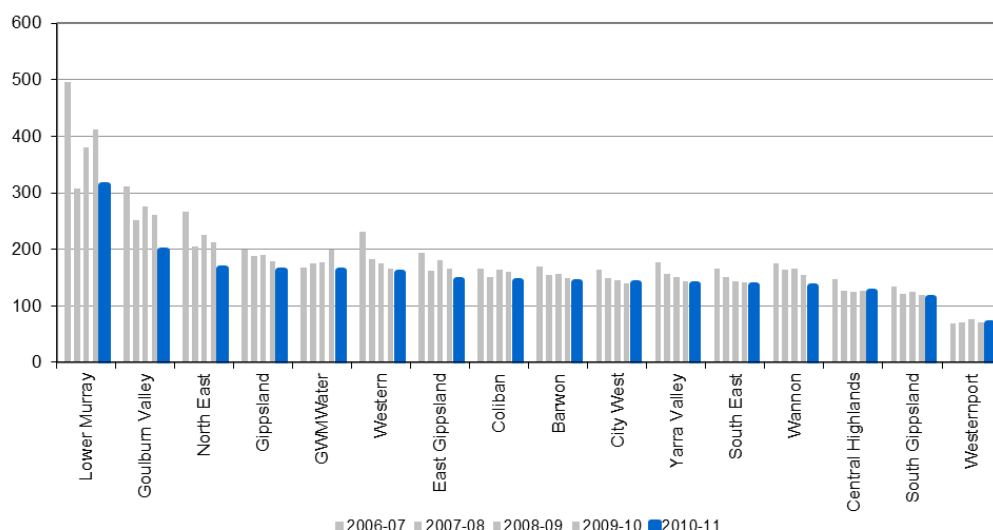
Generally, average household consumption remained higher in regional Victoria (157 kilolitres per household, down from 180 kilolitres in 2009-10), than in metropolitan Melbourne where average household consumption was 138 kilolitres (down from 142 kilolitres). Average household consumption ranged from 69 kilolitres for Westernport Water's region (which has a



large seasonal population) to 313 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 was consistent across the three metropolitan businesses, with 139 kilolitres for both City West Water and Yarra Valley Water customers, and 136 kilolitres for South East Water.

All water businesses observed a decline in average household consumption in 2010-11. Lower Murray Water and Goulburn Valley Water saw the largest declines in average household consumption (24 per cent for both businesses), followed by North East Water (22 per cent) and GWMWater (19 per cent). These northern regions were particularly affected by the January floods, as well as earlier flooding in the north east in late 2010. There was also continual rainfall throughout the year across these regions. Central Highlands Water experienced a minor decrease in average household consumption of 1 per cent, but already had one of the lowest levels of average household consumption.

Figure 3.1 Average annual household consumption
(kilolitres per household)



3.4 Average household bills

Differences in the calculated bills can be attributed to a number of factors: the cost to service different regions, sources of water, historical decisions about tariff structures and of course, the average volume of water used.

Customers serviced by businesses with a higher variable water component are able to exercise greater control over their bill. Coliban Water has the highest proportion of water charges collected through variable charges of the regional urban water businesses. Its proportion of variable water charges began at 49 per cent in 2007-08 and will rise to 76 per cent by the end of the regulatory period in 2012-13. For metropolitan businesses, South East Water has the greatest water variable charge proportion on their bill, rising from 72 per cent in 2007-08 to 76 per cent by the end of the regulatory period.



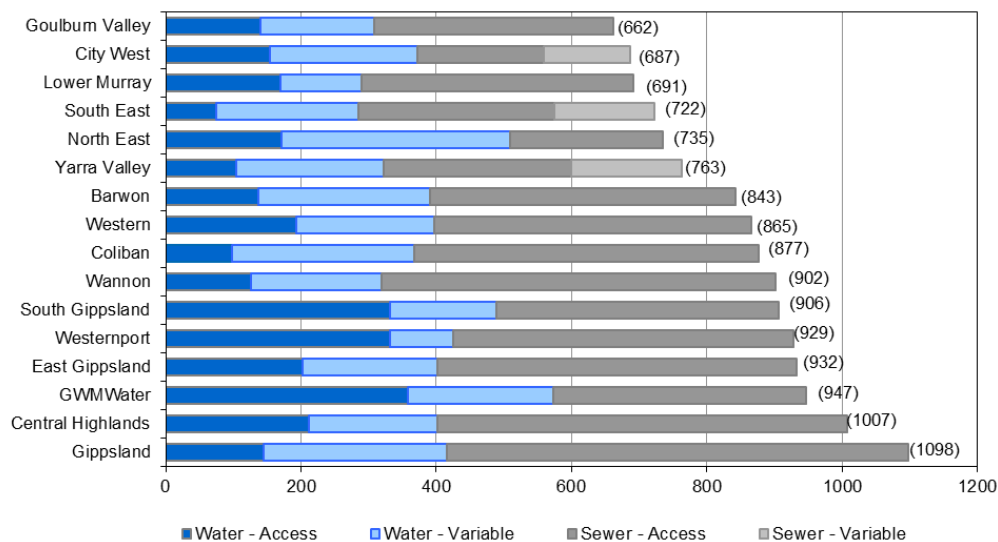
The average household bills for water and sewerage services for owner occupiers shown in figure 3.2 were calculated using the average consumption (shown in figure 3.1). They include both the fixed and variable water and sewerage charges. Metropolitan customers are also billed drainage charges on behalf of Melbourne Water, and parks charges on behalf of the Minister for Water. For regional businesses with multiple pricing zones, the prices in the largest town were used to calculate the average household bill for the business.

In real terms, the statewide weighted average household bills increased by \$52 from \$795 in 2009-10 to \$848 in 2010-11. The average household bill ranged across businesses from \$662 to \$1098:

- The lowest average water bills were reported by Goulburn Valley Water (\$662), City West Water (\$687) and Lower Murray Water (\$691).
- As in 2009-10, the highest average water bills were Gippsland Water (\$1098), Central Highlands Water (\$1007) and GWMWater (\$947).
- The metropolitan businesses remained below the industry average, but they experienced some of the largest increases in average household bills from 2009-10. Average household bills from Yarra Valley Water, South East Water and City West Water increased by \$114, \$103 and \$90 respectively. These price increases are in line with the approved price increases outlined in each business's price determination for the 2009 Metropolitan Melbourne Water Price Review.
- Coliban Water also recorded a large increase (\$99) in average household bills between 2009-10 and 2010-11. In 2010, the Commission reassessed the business's approved price increases across the regulatory period to bring forward the price increases from the later years. This helped stabilise the business's financial position following the drought and improve its ability to deliver water related services to its customers.
- Lower Murray Water was the only business to record a decrease in average household bills, from \$719 in 2009-10 to \$691 in 2010-11. This reflects the large reduction in average household consumption in 2010-11.



Figure 3.2 Average household bills 2010-11
(\$, nominal)



Note: Where businesses have 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. In the two years before the current regulatory period, many business' average household bills were decreasing or relatively stable.

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 between \$93 (Westernport Water) and \$380 (Yarra Valley Water) in 2010-11. On average, many of the regional water businesses saw a decrease in their average household bills for tenants. This corresponds with reduction in average household water consumption in regional areas. Conversely, metropolitan businesses saw an increase in their average household bills for tenants from 2009-10 to 2010-11 despite consumption in metropolitan areas remaining relatively consistent. These price increases are in line with the approved price increases outlined in each business's price determination for the 2009 Metropolitan Melbourne Water Price Review.



Table 3.1 Owner occupiers — Average household bills
(\$, nominal)

	2007-08	2008-09	2009-10	2010-11
City West	446	527	597	687
South East	448	520	619	722
Yarra Valley	473	553	649	763
Barwon	606	692	778	843
Central Highlands	706	881	951	1007
Coliban	554	662	778	877
East Gippsland	667	805	878	932
Gippsland	659	847	1049	1098
Goulburn Valley	513	600	654	662
GWMWater	728	852	941	947
Lower Murray	521	658	719	691
North East	587	623	717	735
South Gippsland	758	824	868	906
Wannon	699	743	830	902
Western	681	759	812	865
Westernport	736	816	883	929

Notes: Average household bills are in that year's dollars, and calculated using that year's average consumption levels. The 2007-08 figures in the 2009-10 performance report were incorrect. They were drawn from the 2007-08 performance report but were in \$ 2006-07 prices.



Pricing trends 2011-12 to 2012-13

The table below shows an estimate of the average household bill for 2011-12 based on prices effective from July 2011. The estimated bill for 2012-13 uses approved price increases and assumes a CPI of 2.75 per cent.

Increases will range from 3 per cent to 12 per cent inclusive of CPI.

Average household bills for 2011-12 to 2012-13

(\$, nominal)

	<i>Average consumption 2010-11 (kL/household)</i>	<i>2011-12 (\$)</i>	<i>2012-13 (\$)</i>	<i>Percentage increase (incl. CPI)</i>
City West	139	781	871	12
South East	136	820	900	10
Yarra Valley	139	878	974	11
Barwon	142	932	1 024	10
Central Highlands	125	1 073	1 137	6
Coliban	144	922	969	5
East Gippsland	145	1 028	1 127	10
Gippsland	162	1 183	1 248	6
Goulburn Valley	199	726	791	9
GWMWater	161	1 028	1 109	8
Lower Murray	313	721	748	4
North East	167	777	811	4
South Gippsland	114	958	1 007	5
Wannon	134	1 019	1 143	12
Western	158	938	1 012	8
Westernport	69	984	1 036	5

Note: These prices are calculated using the current average household usage, and do not allow for possible demand bounceback as restrictions ease and rainfall patterns change.



3.5 Payment difficulties

The urban water businesses must assist customers who have 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.

Hardship Guaranteed Service Level (GSL)

On 1 January 2011 nine businesses implemented a new hardship related GSL: City West Water, South East Water, Yarra Valley Water, Coliban Water, East Gippsland Water, Gippsland Water, Goulburn Valley Water, North East Water and Westernport Water.

The hardship related GSL was introduced to provide an additional incentive for businesses to attempt to contact a customer prior to initiating legal action or restricting water services in response to non-payment.

We note that the overall rate of water restrictions declined substantially in 2010-11, in part driven by the introduction of the hardship related GSL. In particular, we note that Goulburn-Valley Water's rate of restrictions declined significantly. Rates of legal action commenced also declined.

The Commission will review the operation of the hardship related GSL in early 2012 to inform roll-out across the broader water industry.

Please refer to the Commission's website for more information about Hardship GSL.



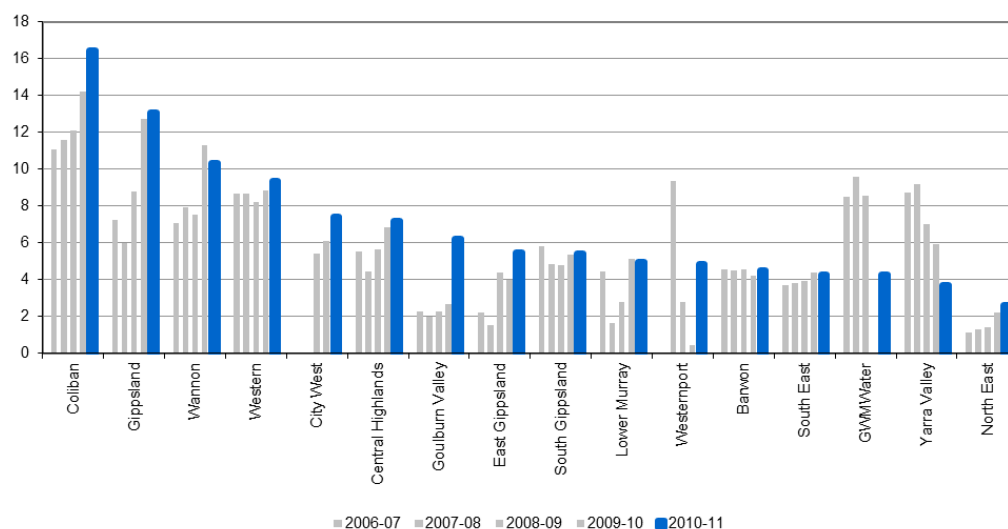
Customers with instalment plans

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 businesses' customers could mean:

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

In 2010-11 the use of instalment plans for domestic customers ranged from 2.6 per 100 customers for North East Water to 16.4 per 100 customers for Coliban Water (figure 3.3). Coliban Water commented that it prefers to use instalment plans to manage payment hardship for both domestic and nondomestic customers. Its high use of instalment plans resulted in a corresponding reduction in the number of supply restrictions. Most water businesses reported increasing rates of instalment plans over the last five years. The overall rate of domestic instalment plans increased from 5.7 per 100 customers in 2009-10 to 6.9 in 2010-11.

Figure 3.3 Domestic customers with instalment plans
(per 100 customers)



Note: GMMWater did not report any customers with instalment plans in 2009-10. It could not offer or report on the number of instalment plans because it changed its customer billing system. The offer of instalment plans was reinstated in 2010-11.

The range of nondomestic customers using instalment plans was generally smaller than for domestic customers. However, some water businesses reported significant increases in the use of instalment plans from previous years, which may reflect a greater focus by these businesses on managing hardship. Wannon Water and Coliban Water's use of instalment plans (8.8 and 8.7 per 100 customers respectively) was notably higher than other water businesses. Wannon Water used instalment plans to provide flexibility to nondomestic customers to pay their account.



It aims to ensure customers have paid their account in full before the next quarterly account is issued. Instalment plans are Coliban Water's preferred method for managing payment hardship for both domestic and nondomestic customers. Its high use of instalment plans resulted in a corresponding reduction in the number of supply restrictions. Conversely, GMMWater and Yarra Valley Water did not have any nondomestic customers using instalment plans.

Utility Relief Grants Scheme

The DHS administers the URGS, which provides one-off financial contributions towards a customer's bill if they are experiencing payment difficulties. The URGS is generally used when the customer experiences 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 almost 20 per cent from 2453 in 2009-10 to 2927 in 2010-11 (table 3.2). Accounting for an increase of 50 000 customers in the customer base, the number of grants rose from 1.2 per 1000 customers in 2009-10 to 1.9 in 2010-11. This is more than double the rate of 0.8 per 1000 customers in 2008-09, only two years ago.

Continuing the trend from 2009-10, Central Highlands Water, Gippsland Water and Wannon Water had the highest rates of URGS uptake for the period with 3.3, 3.5 and 3.9 per 1000 customers respectively. However, these rates were lower than their respective 2009-10 rates of 4.2, 4.1 and 5.4. By contrast, Yarra Valley Water had the highest number of customers given grants, with a total of \$354 614 paid between the 949 customers. This is an increase of 80 per cent in the number of grants approved since 2009-10 (526 grants). Yarra Valley Water commented that more customers experiencing financial difficulties requested access to the URGS program (either directly or through their financial counsellor) than in the past.

The average grant amount in 2010-11 was \$376, which was an increase of \$23 from 2009-10. The average value of grants ranged from \$315 for North East Water to \$451 for Western Water.



Table 3.2 Average amount of Utility Relief Grants 2010-11
(\$ 2010-11)

	Approved	Grants paid (\$)	Average amount grant paid (\$)	Grants per 1000 customers
City West	341	130 522	383	1.03
South East	482	166 354	345	0.80
Yarra Valley	949	354 614	374	1.47
Barwon	117	37 689	322	0.93
Central Highlands	187	74 873	400	3.33
Coliban	57	21 770	382	0.95
East Gippsland	24	8 733	364	1.29
Gippsland	214	88 915	415	3.70
Goulburn Valley	118	38 852	329	2.48
GWMWater	47	19 647	418	1.79
Lower Murray	17	5 647	332	0.61
North East	73	23 003	315	1.76
South Gippsland	18	7 638	424	1.15
Wannon	134	50 302	375	3.90
Western	117	52 764	451	2.36
Westernport	32	12 558	392	2.29
Total	2 927	1 093 881	376	1.84

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 2010-11, the Government contributed a total of \$135 million in concession payments toward water bills (table 3.3). This was an increase of \$23 million compared with 2009-10, due to changes in the concession levels.

Table 3.3 Concession payments
(\$, nominal)

Water business	Payments 2009-10	Payments 2010-11
City West	13 865 498	19 150 663
South East	29 773 119	36 337 397
Yarra Valley	35 494 974	39 474 516
Barwon	7 438 896	7 890 303
Central Highlands	3 184 278	4 432 683
Coliban	3 509 325	4 347 542
East Gippsland	1 127 331	1 259 676
Gippsland	3 152 764	4 346 086
Goulburn Valley	3 091 117	3 576 708
GWMWater	1 542 895	2 736 682
Lower Murray	1 469 742	1 703 978
North East	2 891 668	3 111 105
South Gippsland	952 588	1 108 090
Wannon	2 288 714	2 468 638
Western	2 162 438	2 564 772
Westernport	453 450	546 609
Total	112 398 798	135 055 449

Source: Department of Human Services



3.6 Restrictions and legal actions

The Customer Service Code, which took effect on 1 July 2005, requires all urban water businesses to assist customers facing payment difficulties on a case-by-case basis. It also requires that water businesses take a series of steps before supply can be restricted. 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.

Most businesses apply restrictions or take legal action only after all possible assistance has been provided to customers, and where the level of outstanding debt is high and the cost of recovering that debt is less than the debt itself.

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 domestic customers
- the average level of outstanding debt for which restrictions were applied.

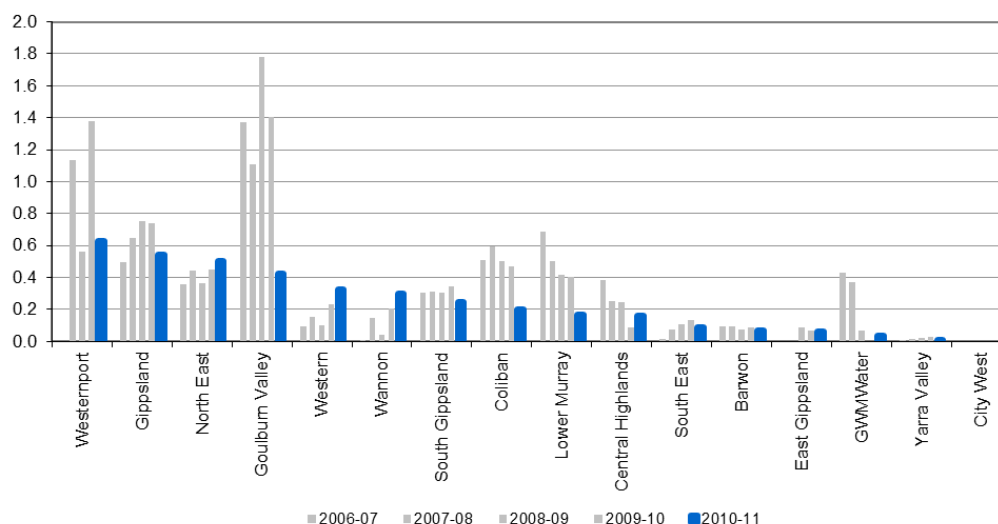
In 2010-11, 2105 domestic customers (including 359 domestic customers on concession) and 37 nondomestic customers had their water supply restricted for nonpayment of water bills. This was a significant decrease from 2009-10, with 1201 fewer domestic customers having their water supply restricted for nonpayment of water bills. The number of nondomestic customers who had their water supply restricted almost halved over the same period (down from 70 in 2009-10).

Westernport Water had the highest proportion of domestic and nondomestic restrictions of any business, with 0.63 per 100 domestic customers and 0.35 per 100 nondomestic customers (figure 3.4). However, this is a significant improvement on its results for 2009-10.

Goulburn Valley Water reviewed its processes for customers experiencing financial hardship and revised its collections processes in 2009-10, focusing on more proactive customer contact methods. As a result, the number of domestic customers who had their water supply restricted for nonpayment of water bills fell to 1.4 per 100 domestic customers in 2009-10. These numbers fell again in 2010-11 to 0.4 per 100 domestic customers, the largest reduction of all businesses for 2010-11. City West Water did not restrict any domestic customers for nonpayment in 2010-11, continuing the trend of previous years.



Figure 3.4 Domestic restrictions for nonpayment of bills
(per 100 customers)



Note: GMMWater did not report any restrictions in 2009-10, due to a change to its customer billing system.

Restriction duration (domestic)

Water businesses must identify how long customers who are restricted for nonpayment remain on supply restrictions. Specifically, they must report the number of domestic customers whose water supply is restored within three days of being restricted, as well as the number of domestic customers with restrictions still in place after 14 days. A high proportion of customers on restrictions for long periods of time may suggest that 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.

The majority of the businesses reported 39 per cent to 79 per cent of restricted customers had their water supply restored within three days. The proportion of restrictions not restored within 14 days generally ranged from 4 per cent (Western Water) to 49 per cent, with GMMWater (89 per cent for eight out of only nine restricted customers) and Westernport Water (147 per cent) the notable exceptions.

Westernport Water has an unusual situation due to a large number of seasonal nonpermanent residents who do not require water supply year round. These customers do not seem to mind having a restriction applied and have them removed when they return to the property and pay their outstanding bills. This consistently gives Westernport Water one of the lowest restoration rates. Westernport Water reports all active restrictions in place for this indicator, including restrictions applied in the previous year that are still in place, which explains why the proportion not restored is greater than 100 per cent.

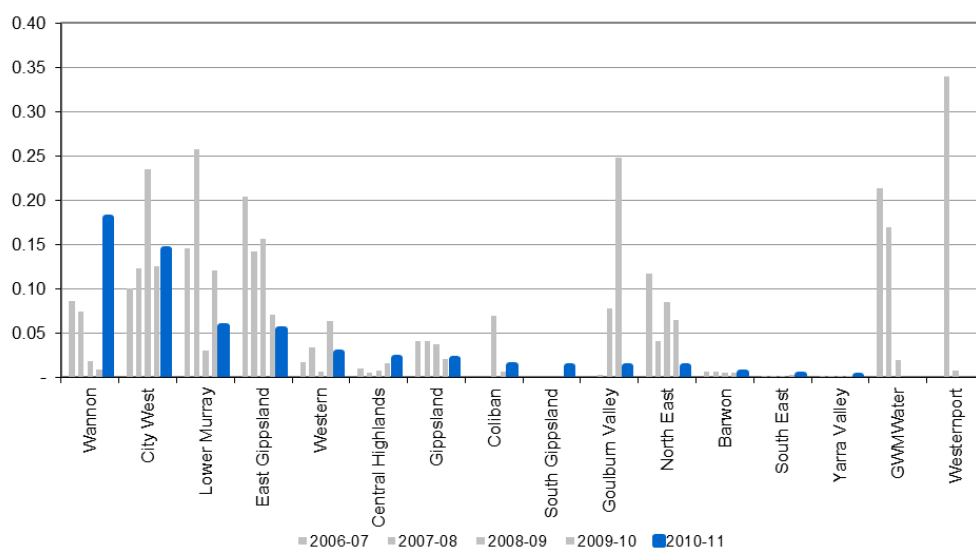


Legal actions for non-payment of bills

Overall, legal action was taken against 771 customers across Victoria in 2010-11 for nonpayment of water bills — 23 customers less than the previous year. Legal action was taken against 661 domestic customers (573 nonconcession customers and 88 concession customers) and 110 nondomestic customers.

Overall, there were very few (less than 0.06 per 100 customers) or no instances of water businesses taking legal action for nonpayment of bills for domestic customers. However, Wannon Water recorded a large increase in legal action for nonpayment of bills (figure 3.5). Its rate increased from 0.01 to 0.18 per 100 domestic customers from 2009-10 to 2010-11. For its nondomestic customers, the rate increased from 0.02 in 2009-10 to 0.30 per 100 customers in 2010-11. According to Wannon Water, this increase was the result of a more concentrated effort to collect outstanding accounts where customers had refused to engage with Wannon Water. Further, there were a number of accounts where Wannon Water was working with customers but failed to reach a suitable outcome. East Gippsland Water also recorded a high rate of legal actions for nonpayment for nondomestic customers, with 0.81 per 100 customers in 2010-11. According to East Gippsland Water, this was the result of action taken against one company with 19 individual connections, which was recorded as 19 legal actions. GWMWater and Westernport Water reported no legal actions for nonpayment of bills for domestic customers.

Figure 3.5 Domestic legal actions
(per 100 customers)



Note: In 2009-10, GWMWater did not report any legal actions against customers due to a change to its customer billing system. Westernport Water did not take legal action this financial year due to a requirement to change service providers undertaking legal actions.

The average debt levels for water businesses in 2010-11 were similar to those in 2009-10 when supply was restricted. They ranged from \$346 for South Gippsland Water to \$1862 for Yarra Valley Water.



The average debt at the time of legal action was substantially higher than the \$200 minimum and ranged from \$943 for South Gippsland Water to \$8095 for Yarra Valley Water. Yarra Valley Water and Barwon Water recorded the largest increases in the average debt at the time of legal action between 2009-10 and 2010-11: from \$3322 to \$8095 for Yarra Valley Water, and \$1822 to \$3189 for Barwon Water. Yarra Valley Water attributed this increase to two large legal cases undertaken during the year. If these two cases are excluded, the average for 2010-11 is \$4005. Similarly, Barwon Water's increase was the result of a small number of customers with large balances owing which distorted the average figure, as well as a rise in its internal threshold for commencing legal action.

Conversely, Wannon Water had the largest decrease in average debt at the time of legal action, from \$5351 in 2009-10 to \$1970 in 2010-11. Wannon Water noted that this was because legal action undertaken in 2010-11 commenced earlier in the collection cycle before the debt grew too large. Further, the few legal actions in 2009-10 had a high total value (\$20 998), pushing the average debt level in 2009-10 above longer term averages.

3.7 Hardship grants (domestic)

The Customer Service Code requires all water businesses serving urban customers to have policies in place to assist domestic customers in hardship. At a minimum, the hardship policies must:

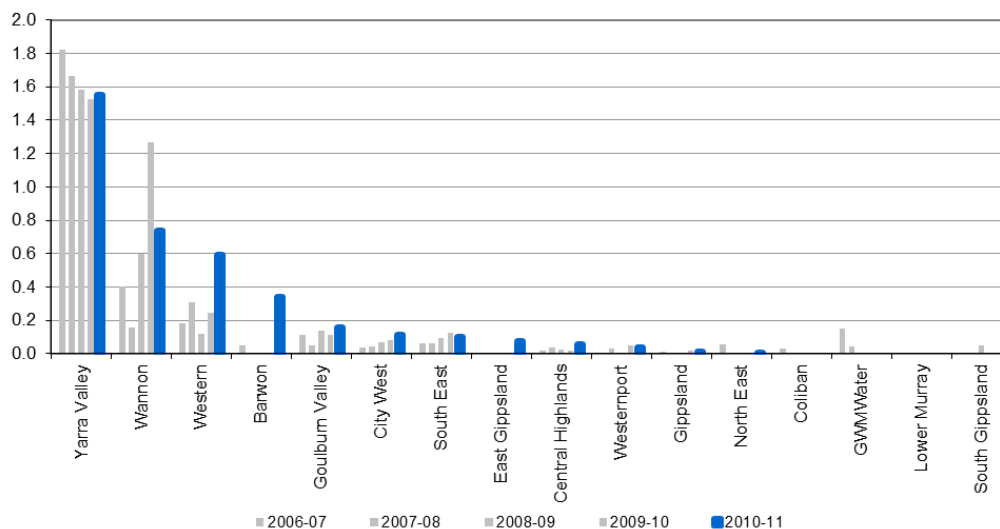
- exempt customers in hardship from supply restriction, legal action and additional debt recovery costs while payments are made to the business according to an agreed flexible payment plan or other payment schedule
- offer information about the water business's dispute resolution policy and the Energy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

Water businesses approved 12 141 hardship grants in 2010-11, up from 11 244 in the previous year. Yarra Valley Water again had the most extensive hardship grant scheme, accounting for 83 per cent of the total number of grants approved at an average value of \$88 (figure 3.6). Yarra Valley Water noted that a large proportion of customers experiencing financial difficulty are on the Arrange & Save program. This program provides credits and writeoffs to the account when customers make their payments in full and on time over a period of time. 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.

Some businesses saw a notable increase in hardship grants approved in 2010-11. Barwon Water recorded a significant increase in the number of hardship grants approved from no grants in 2009-10 to 428 grants in 2010-11. This reflected that Barwon Water provided the mandatory Utility Relief Grants Scheme in 2009-10 while working on a new hardship program designed to better identify and provide additional assistance to customers experiencing hardship which was implemented in 2010-11. East Gippsland Water did not grant any hardship grants until 2009-10, when it approved one. By contrast, it approved 24 hardship grants in 2010-11, an increase of 23 grants. This can be attributed to increased efforts by East Gippsland Water to inform customers that they can remain on a payment plan if they are in hardship.



Figure 3.6 Hardship grants approved
(per 100 customers)



Note: In 2009-10, GWMWater could not identify customers that required hardship grants due to a change to its customer billing system.

The value of hardship grants ranged from \$28 to \$807 in 2010-11. North East Water reported the highest average value of hardship grants at \$807 (figure 3.7).

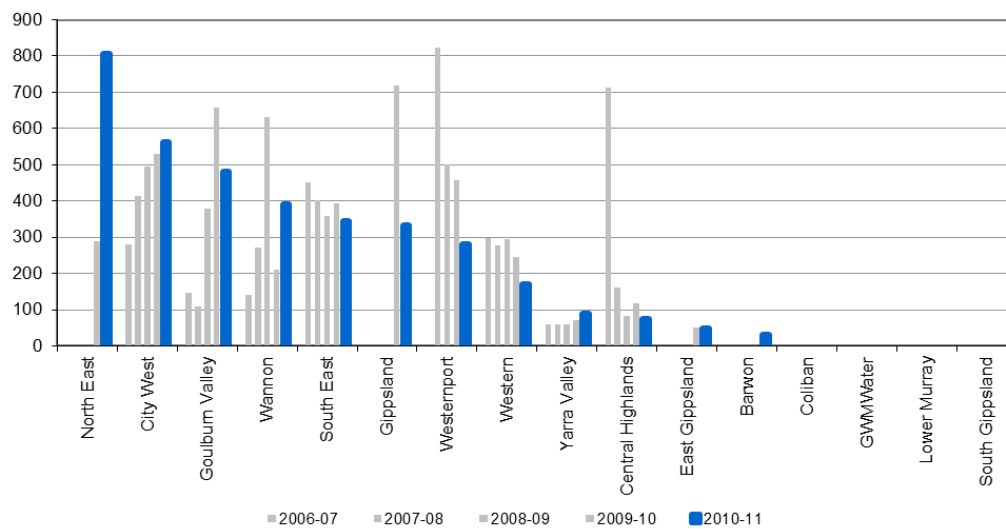
Gippsland Water reported the largest decrease in the value of hardship grants, from \$719 in 2009-10 to \$331 in 2010-11, a decrease of \$388. Gippsland Water noted that this represents the amount that they wrote off for particular customers in hardship. This happens when customers agree to a payment schedule and then Gippsland Water reduces that amount. In 2009-10 a small number of large amounts owed from prior periods was written off, and this was not present in 2010-11.

Wannon Water and South East Water recorded the largest falls in the number of hardship grants they approved. For example, Wannon Water approved 252 grants in 2010-11, down from 428 in 2009-10. However, the total value of grants approved by Wannon Water rose from \$210 in 2009-10 to \$390 in 2010-11; that is, on average, fewer customers received larger grants. This is because the business provided fewer 'bonus credits' in 2010-11. These tend to be smaller grants commensurate with repayment amounts being made by customers; that is, a \$10 weekly payment results in a \$10 hardship grant after the third payment. South East Water approved 600 grants in 2010-11, down from 748 grants in 2009-10.

For the previous report, Barwon Water advised that it developed a hardship grant scheme which came into effect in late 2009-10, with benefits flowing to customers after 1 July 2010. This in part explains the increase in hardships granted between 2009-10 and 2010-11.



Figure 3.7 Average value of hardship grants
(\$, nominal)



Note: In 2009-10, GWMWater could not identify customers that required hardship grants due to a change to its customer billing system.



4 CUSTOMER RESPONSIVENESS AND SERVICE

4.1 Background

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

The Commission's Customer Service Code places obligations on businesses for customer responsiveness and service. This includes 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 2010-11, Victoria's water businesses received a total of 2.16 million phone calls, 82 per cent of which were calls to account enquiry lines.

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. Some businesses have a separate number for faults and emergencies. These businesses are Goulburn Valley Water, Barwon Water, South East Water, Westernport Water, Central Highlands Water, Gippsland Water, City West Water, GMMWater and Yarra Valley Water. Those businesses without a separate fault and emergency number must record all calls against account lines. These businesses are Coliban Water, East Gippsland Water, Lower Murray Water, South Gippsland Water, Wannon Water and Western Water. This can make direct comparisons between all businesses difficult, although calls are generally answered faster when a business has a fault line available to customers.

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.

The time taken to connect to an operator 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 increases the time taken to connect to an operator. For example, Yarra Valley Water — with the longest connect time (82 seconds) — uses an IVR, while Wannon Water — with the shortest connect time (7 seconds) — has external calls answered by an operator.

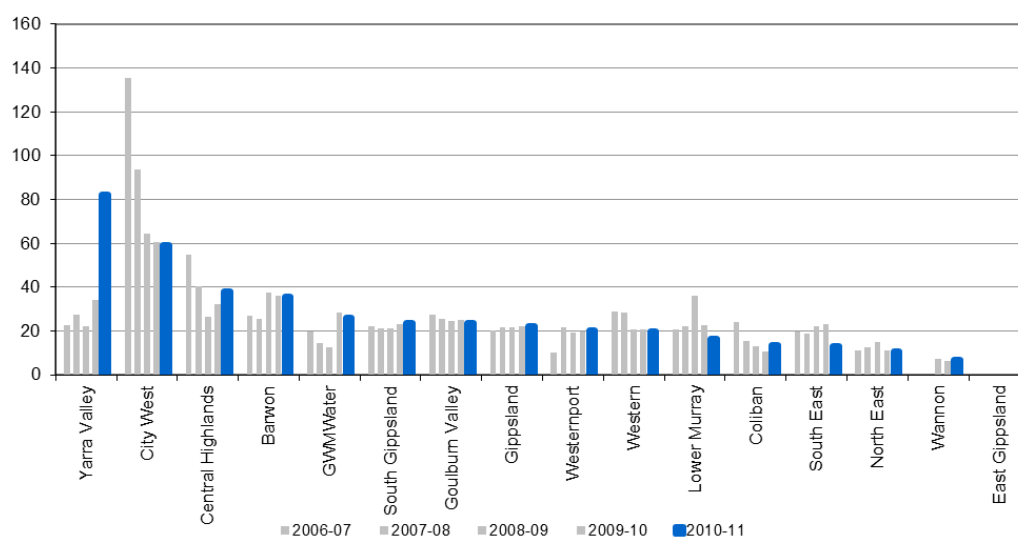


Across the Victorian water industry, the average time to connect to an operator was 27 seconds in 2010-11, which is 2 seconds longer than the average of 25 seconds in 2009-10. The majority of businesses reported connection times similar to those reported in 2009-10 (figure 4.1). Notable variations from 2009-10 were reported by Central Highlands Water (a 6 second increase) and Yarra Valley Water (a 48 second increase). South East Water was the best of the metro businesses, reporting a 10 second decrease in call connect time over previous years.

Yarra Valley Water advises that the large increase in its call response time was caused by preparing for and implementing a new billing and customer contact system introduced in mid-2011. This affected operations of the contact centre as the new processes were being established and staff were familiarising themselves with the new system. Performance improved in the latter part of 2011.

All 10 businesses with a separate emergency fault line reported connection times of 37 seconds or less for the fault line.

Figure 4.1 Average time taken to connect to an operator – account and fault lines
(seconds)



Note: East Gippsland Water connects calls directly to an operator and therefore did not provide this data.

Calls answered within 30 seconds

While the average time taken for calls to be connected to an operator measures the overall responsiveness of a business's call centre, it does not capture the frequency with which calls are answered promptly. The percentage of calls answered within 30 seconds is important because it more accurately reflects the incidence of poor waiting times.

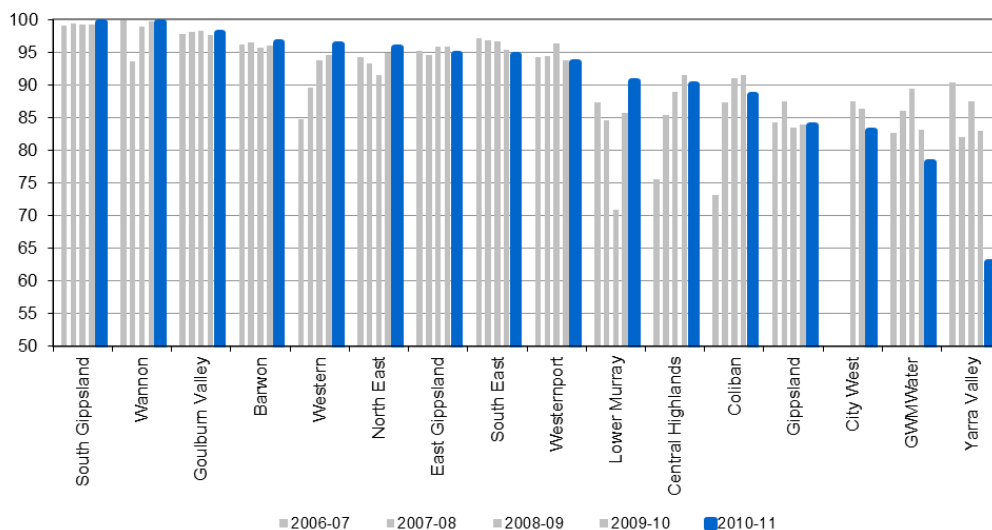
Eleven businesses reported more than 90 per cent of calls answered within 30 seconds, with South Gippsland Water and Wannon Water reporting almost 100 per cent (figure 4.2).



Yarra Valley Water and GWMWater had the lowest percentage of calls answered within 30 seconds (63 per cent and 78 per cent respectively), followed by City West Water (83 per cent). Yarra Valley Water recorded the most significant decline in performance over the period. Its percentage of calls answered within 30 seconds fell from 83 per cent (which was also the lowest percentage in 2009-10, along with GWMWater) to 63 per cent in 2010-11, the result of implementing the new billing system described earlier.

Lower Murray Water showed the greatest improvement for the second year in a row. Its percentage of calls answered within 30 seconds rose from 86 per cent in 2009-10 to 91 per cent in 2010-11. Lower Murray Water attributes this to changing their phone system from a call centre set up back to reception answering all calls.

Figure 4.2 Calls answered within 30 seconds — account and fault lines (per cent)



4.3 Benchmarking of call centres

Customer Service Benchmarking Australia (CSBA) was commissioned to benchmark the water businesses' call centre performance in 2010-11 against Australian water and energy sector averages. CSBA assesses a business's performance from calls to their account lines using the 'mystery caller' technique, which can result in different figures than those reported by businesses.

The CSBA reported performance for sector averages (metropolitan retail and regional urban) and for individual businesses among the top performers in a particular category. In 2010-11 CSBA made 1472 calls to regional urban businesses and 321 calls to the metropolitan retailers.



Call centre connect times

CSBA's 'mystery caller' survey for the metropolitan water businesses reported a connect time of 54 seconds in 2010-11, 5 seconds faster than in 2009-10. South East Water had the shortest connect time, averaging 17 seconds per call, 5 seconds faster than in 2009-10.

Regional water businesses recorded the shortest connect time of all the sectors surveyed, with an average of 33 seconds (which was consistent with 2009-10). North East Water was again the best performing regional urban business, with an 11 second connect time, 22 seconds quicker than the Victorian regional water average.

The performance of Victorian water businesses can also be compared with Australian averages. The average connect time for the Australian water sector was 42 seconds in 2010-11 (up from 39 seconds in 2009-10), while the average response time for all utilities in Australia (which includes energy and water) fell slightly to 59 seconds (from 60 seconds in 2009-10).

Calls answered within 30 seconds

CSBA reported that metropolitan retailers answered 79 per cent of calls within 30 seconds in 2010-11, compared to 82 per cent in 2009-10 and 58 per cent in 2008-09. South East Water was the best performer, answering 93 per cent of all calls within 30 seconds, up 9 percentage points from 2009-10.

Regional urban businesses again performed better than the metropolitan retailers, answering 90 per cent of all calls within 30 seconds, 11 percentage points ahead of their metropolitan counterparts. This result also improves on regional businesses' performance in the previous two years; they answered 89 per cent of call within 30 seconds in 2009-10 and 72 per cent in 2008-09. North East Water and Westernport Water were the best performers, answering 99 per cent of calls within 30 seconds during the year.

Victorian regional water businesses also compared favourably with the Australian average for the water sector, where 83 per cent of calls were answered within 30 seconds in 2010-11 (up from 66 per cent in 2008-09 and 48 per cent in 2007-08). The Australian utility sector answered 74 per cent of calls within 30 seconds in 2010-11 (compared with 76 per cent in 2009-10 and 52 per cent in 2008-09).

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 remained relatively constant over the four years to 2010-11. The metropolitan retailers achieved an overall greeting quality score of 91 per cent in 2010-11, the same as 2009-10. City West Water achieved the best results, with 94 per cent over the year. South East Water also performed well in this category, achieving high quarterly results during the year (91 per cent from April to June 2010-11).

The regional urban businesses achieved an overall greeting quality score of 89 per cent, a slight decrease from 2009-10. Coliban Water and Wannon Water led the Victorian regional water sector for 2010-11 (both scoring 95 per cent).



Victorian water businesses compared well with Australian averages. The overall greeting quality score for the Australian water sector was 90 per cent in 2010-11, the same as 2009-10. The overall greeting quality score for the Australian utility sector was 91 per cent (the same as 2009-10, and up slightly from 89 per cent in 2008-09).

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 easygoing; and disinterested and curt.

The metropolitan retailers achieved best practice agent manner 74 per cent of the time in 2010-11. Results were reasonably consistent over the last few years. South East Water had the best full year results with 78 per cent in 2010-11.

The regional urban businesses achieved best practice agent manner for 76 per cent of calls in 2010-11, up slightly from 75 per cent 2009-10 and 2008-09. Wannon Water was the best performing regional urban business in 2010-11 (with 88 per cent), overtaking GWMWater, which was the best performer for the last three years.

The performance of the Victorian water businesses was consistent with Australian averages. The overall best practice agent manner score for the Australian water sector was 74 per cent, compared to 73 per cent in 2009-10 and 75 per cent in 2008-09. The overall score for the Australian utility sector was also 73 per cent (73 per cent in 2009-10 and 75 per cent in 2008-09).

The Victorian metropolitan and regional water businesses also performed well in terms of 'acceptable' agent manner, which incorporates both the interested, helpful and warm rating and the businesslike and unemotive rating. The metropolitan retailers achieved a score of 96 per cent in this category, maintaining the same score for the last three years. The regional urban businesses achieved a score of 97 per cent (compared with 95 per cent in both 2009-10 and 2008-09). These results were consistent with the performance of the Australian water and utility sectors.

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 2010-11, call centre staff of the metropolitan retailers:

- fully probed the caller's needs 78 per cent of the time (compared to 77 per cent in 2009-10 and 70 per cent in 2008-09)
- demonstrated good product knowledge 78 per cent of the time (compared to 84 per cent in 2009-10 and 86 per cent in 2008-09)
- provided a clear outcome to an enquiry 81 per cent of the time (down from 86 per cent in 2009-10 and 84 per cent in 2008-09)



- were courteous and helpful 91 per cent of the time (compared to 88 per cent in 2009-10 and 91 per cent in 2008-09).

Yarra Valley Water performed best in all enquiry handling skill categories, with 83 per cent for 2010-11.

In 2010-11, call centre staff of the regional urban businesses:

- fully probed the caller's needs 72 per cent of the time (compared to 74 per cent in 2009-10 and 71 per cent in 2008-09)
- demonstrated good product knowledge 84 per cent of the time (compared to 88 per cent in 2009-10 and 83 per cent in 2008-09)
- provided a clear outcome to an enquiry 85 per cent of the time (compared to 89 per cent in 2009-10 and 82 per cent in 2008-09)
- were courteous and helpful 88 per cent of the time (down from 91 per cent in 2009-10 and 90 per cent in 2008-09).

Wannon Water was the best Victorian regional water company in the enquiry handling skills category for 2010-11, with 89 per cent.

4.4 Complaints

Customer complaints provide an important indication of overall customer satisfaction with the services provided by water businesses. The subject matter of customer complaints can also provide important information about aspects of performance needing improvement. Where a business is unable to 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

The performance reporting framework requires businesses to report the number of customer complaints for water quality, water supply reliability, sewerage service quality and reliability, affordability, billing, pressure, sewage odour and 'other' complaints. A complaint is registered if a customer registers dissatisfaction in a complaint category.

Businesses are also required to categorise the types of water quality complaints they receive — namely colour, taste and odour, blue water and 'other'. Water quality complaints are discussed in more detail in section 6.3.

In 2010-11 businesses received a total of 13 501 complaints, similar to the 13 545 complaints received in 2009-10. This equates to a frequency of 0.57 complaints per 100 customers across the state in 2010-11. North East Water reported the lowest number of complaints per 100 customers, at 0.24, followed by City West Water and South East Water, both with 0.34 complaints per 100 customers (figure 4.3).

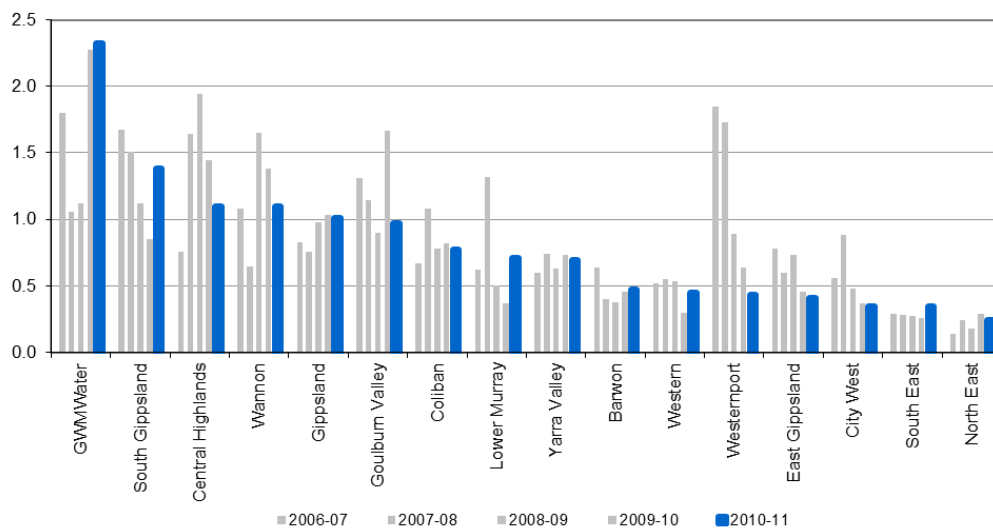


GMMWater’s complaint rate, which was the highest in 2009-10 due to billing delays caused by new software, was highest again in 2010-11, with 2.3 complaints per 100 customers. However, in this case complaints were associated with poor water quality caused by the January floods. Lower Murray Water also had a significant increase in complaints (0.71 complaints per 100 customers up from 0.37 in 2009-10) due to water quality issues caused by Murray River flooding. South Gippsland Water saw an increase (1.4 complaints per 100 customers up from 0.87 in 2009-10) due to a number of factors, including customers unhappy with a targeted pressure reduction program in Yarram to reduce pipe bursts, and two separate water quality incidents. Western Water also had a significant increase this year (0.45 complaints per 100 customers, up from 0.3 in 2009-10).

Goulburn Valley Water reported the greatest improvement in complaints, decreasing from 1.66 complaints per 100 customers in 2009-10 to 0.97 complaints in 2010-11. Central Highlands Water also recorded a large improvement (from 1.4 to 1.1 complaints per 100 customers).

The complaint types received by the water businesses in order of frequency were: water quality (46.5 per cent), billing (13.7 per cent), pressure (6.8 per cent), affordability (5.9 per cent), sewer odour (4.8 per cent), sewer service reliability (3.9 per cent) and water supply reliability (3.1 per cent). Other complaints not included in these categories comprised 15.5 per cent of total complaints.

Figure 4.3 Complaints received by water businesses
(per 100 customers)





4.5 Complaints received by the Energy and Water Ombudsman (Victoria)

Since 2001 EWOV has been responsible for investigating complaints about water businesses. Its role is to facilitate the resolution of complaints and disputes between consumers and electricity, gas and water providers in Victoria.

EWOV records complaints under three separate categories: investigated complaints; assisted referrals; and unassisted referrals. It also records the number of enquiries it receives. Information on the number of enquiries and complaints EWOV receives about each business is set out in table 4.1.

In 2010-11 EWOV received 1731 complaints and 197 enquiries about the metropolitan and regional urban businesses, up from 1449 complaints and 151 enquiries in 2009-10. This data is normalised by examining the ratios of percentage of complaints for the sector to the business's sector share.

South East Water once again had the smallest frequency of complaints to EWOV among metropolitan retailers, with 27 per cent of metropolitan complaints while servicing 38 per cent of metropolitan customers. By contrast, City West Water and Yarra Valley Water had a higher proportion of complaints than their sector share.

For the regional businesses, Wannon Water had the highest frequency of complaints referred to EWOV with 11 per cent of all regional complaints while only servicing 6 per cent of the regional population. This was followed by Westernport Water (4 per cent of regional complaints and a 2 per cent sector share). Lower Murray Water experienced the smallest frequency of customer complaints to EWOV, with only 2 per cent of all regional complaints while servicing 5 per cent of regional customers. This was followed by North East Water (3 per cent of regional complaints and a 7 per cent sector share).

Table 4.1 EWOV cases

Water Businesses	Total Cases				Total Enquiries		Total Complaints		2010-11 Complaints			Sector Share	Ratio
	2010-11	%	2009-10	%	2010-11	%	2010-11	%	Investigated Complaints	Assisted Referrals	Unassisted Referrals		Complaints to Sector Share
Melbourne Water	58		53		5		53		10	19	24	-	
City West	364	26	354	36	39	25	325	26	65	126	134	21	1.20
South East	388	27	298	28	49	31	339	27	59	149	131	38	0.70
Yarra Valley	673	47	369	36	71	45	602	48	125	264	213	41	1.17
Total – Metropolitan	1 425	100	1 021	100	159	100	1 266	100	249	539	478	100	
Barwon	82	18	88	19	7	21	75	18	9	34	32	21	0.85
Central Highlands	59	13	50	8	2	6	57	14	7	27	23	10	1.44
Coliban	42	9	55	6	6	18	36	9	12	13	11	10	0.84
East Gippsland	21	5	14	4	0	0	21	5	5	7	9	3	1.52
Gippsland	43	10	70	8	3	9	40	10	1	22	17	10	0.98
Goulburn Valley	31	7	54	10	5	15	26	6	2	8	16	8	0.75
GWMWater	22	5	20	3	2	6	20	5	2	12	6	5	1.00
Lower Murray	9	2	15	3	1	3	8	2	3	1	4	5	0.39
North East	14	3	21	6	0	0	14	3	2	4	8	7	0.47
South Gippsland	13	3	16	3	2	6	11	3	1	6	4	3	0.92
Wannon	46	10	44	11	0	0	46	11	11	16	19	6	1.76
Western	43	10	48	12	2	6	41	10	7	13	21	8	1.21
Westernport	20	4	31	7	3	9	17	4	1	11	5	2	1.75
Total — Regional	445	100	526	100	33	100	412	100	63	174	175	100	
Total — Victoria	1 928		1 600		197		1 731		322	732	677		

Source: EWOV (Energy and Water Ombudsman (Victoria)) 2011, Annual Report 2010-11. Melbourne.



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 the businesses' network reliability, considering performance of the assets, service interruptions to customers and responsiveness to service problems.

The chapter is divided into two main sections, looking firstly at water supply, then at the provision of sewerage services.

5.2 Water supply reliability

This section reports information about water supply reliability from two perspectives — the performance of the businesses' assets and the impact on customers. Reliability is determined 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)
- the level of losses in the water supply system (as indicated by the volume of water that does not get metered as reaching customers due to leaking pipes or under-recording water meters).

5.3 Water supply interruptions

A water supply interruption is an event that causes a total loss of water supply to one or more customers. These interruptions may be due to planned maintenance activities, or unplanned activities resulting from pipeline 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 a business's asset management program can also significantly affect supply reliability in the medium to long term.

The weighted average rate of planned and unplanned water supply interruptions across the state was 35.9 per 100 kilometres of water main in 2010-11, falling from 38.9 in 2009-10 and continuing a downward trend. The total rate of interruptions ranged from 7.6 (Wannon Water) to 61.9 (Yarra Valley Water) per 100 kilometres of water main (figure 5.1). All businesses reported a total rate of interruptions of less than 50 per 100 kilometres of water main, with the exception



of Yarra Valley Water.

Thirteen of the 16 businesses reported improvements in their interruption rate relative to 2009-10. South Gippsland Water recorded the largest reduction (25 per cent), with its interruption rate falling from 40.8 in 2009-10 to 30.5 in 2010-11. This result continues the improvement recorded by South Gippsland Water since 2007-08, when its interruption rate was 55.1 per 100 kilometres of water main. Westernport Water and Lower Murray Water also reported significant improvements in their interruption rates in 2010-11 compared with the previous period. Fourteen of the 16 businesses reported lower rates of bursts and leaks per 100 kilometres of water main in 2010-11.

East Gippsland Water had the largest increase (12 per cent) in rate of interruptions, with 18.3 in 2010-11 compared with 16.4 in 2009-10. However, it is still one of the better performing businesses, with a rate of interruptions of around 20 or less for the last five years.

The average rate of interruptions across the state improved between 2006-07 and 2010-11. It fell from 50.6 interruptions per 100 kilometres of water main in 2006-07 to 35.9 in 2010-11. Small water businesses (Wannon Water, North East Water, East Gippsland Water and Western Water) were the best performers over this period. They consistently maintained low rates of interruptions (around 20 or less) over the five-year period.

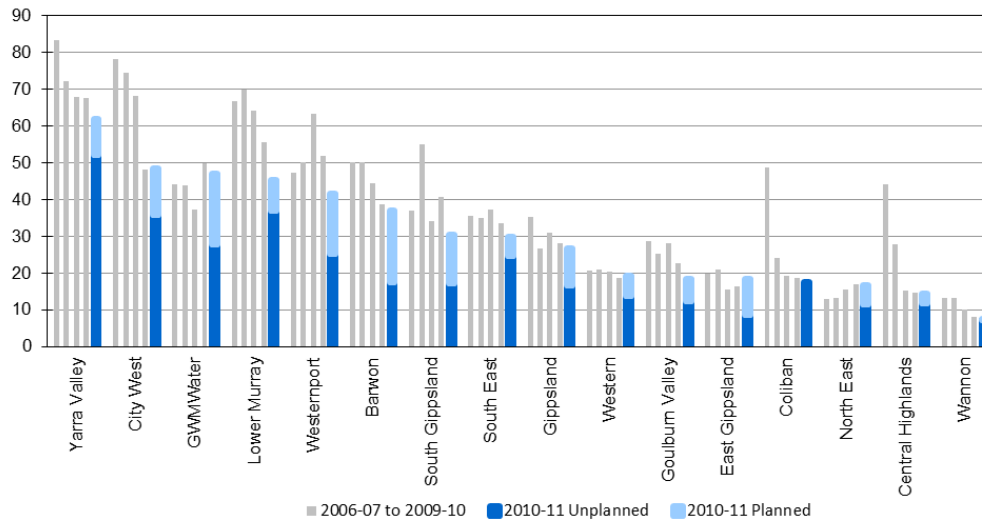
Central Highlands Water and Coliban Water experienced the biggest improvements in their rates of interruptions between 2006-07 and 2010-11. Central Highlands Water's results improved by 68 per cent (falling from 44.2 in 2006-07 to 14.3 in 2010-11), while Coliban Water's results improved by 64 per cent (falling from 48.7 in 2006-07 to 17.4 in 2010-11). Each business reported a fall in its rate of interruptions each year over the period. Both businesses previously attributed improvements to conducting new planned works under pressure. Central Highlands Water also cited its proactive renewal programs and valve replacement works, while Coliban Water added that temporary service provision also helped improve its performance.

Yarra Valley Water reported the highest average interruption rate (more than 70 per 100 kilometres of water main annually) over the five-year period. This was largely the result of high unplanned maintenance activities (more than 83 per cent of its total interruptions annually). City West Water, Lower Murray Water and GWMWater also recorded high rates of interruptions over the period. These businesses' results are high compared with other businesses, although the rates for City West Water and Lower Murray Water are falling. The results for GWMWater fluctuated over the period.

Yarra Valley Water and City West Water previously attributed consistently higher rates of water supply interruptions to reactive clay soils prevalent in their distribution areas, with continuing dry conditions exacerbating the issue. Lower Murray Water identified ground movement caused by dry conditions to explain its performance, while GWMWater explained that increased air scouring to improve water quality contributed to its high frequency of planned interruptions.



Figure 5.1 Water supply interruptions
(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. One water supply interruption will generally inconvenience a number of customers. For example, an event that causes 50 customers to lose supply is recorded as one water supply interruption and 50 customer interruptions.

The average frequency of planned and unplanned customer interruptions across the state was 0.24 in 2010-11, lower than the 0.25 recorded in 2009-10 (figure 5.2). This continues the downward trend over the last five years from the 0.30 reported in 2006-07.

Customer interruption frequency ranged from 0.07 (Wannon Water) to 0.93 (Westernport Water). Seven of the 16 businesses reported a rate equal to or less than 0.20 interruptions per customer. Westernport Water's high result was mainly due to a large increase (95 per cent) in its frequency of planned customer interruptions.

Nine businesses reported improvements in customer interruption frequency compared with 2009-10. GWMWater had the most substantial change, its frequency falling 27 per cent from 0.66 in 2009-10 to 0.48 in 2010-11. South Gippsland Water and Lower Murray Water also reported substantial improvements (23 per cent and 22 per cent respectively). East Gippsland recorded the largest increase in customer interruption frequency (rising from 0.29 in 2009-10 to 0.39 in 2010-11, a 33 per cent increase), followed by Westernport Water (with a 31 per cent increase).

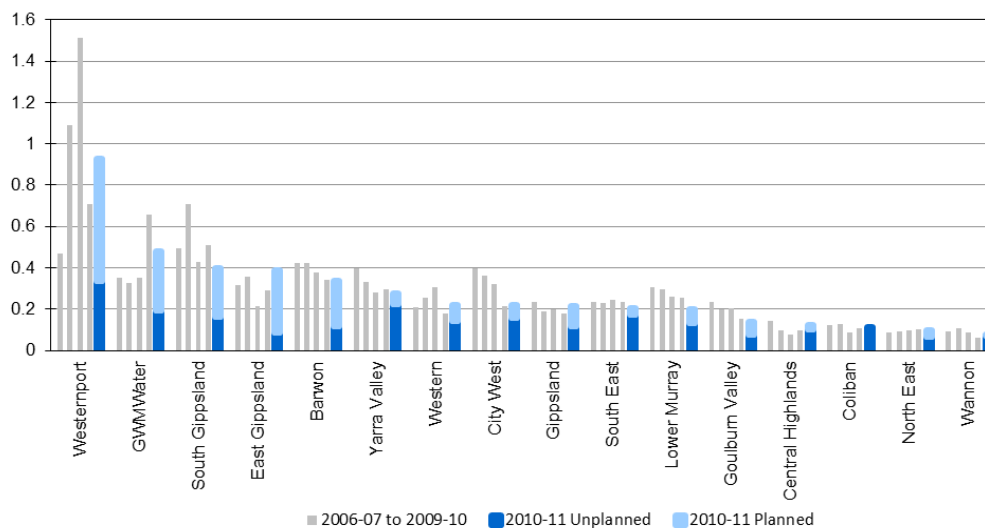
Results are also presented for planned customer interruption rates. Eleven of the 16 businesses reported a planned customer interruption rate of less than 0.1 in 2010-11. These businesses also reported a rate of less than 0.1 for the period 2006-07 to 2009-10.



The trend in average customer interruption frequency across the state improved from 0.30 in 2006-07 to 0.24 in 2010-11. Wannon Water, North East Water, Coliban Water and Central Highlands Water were the best performers, with customer interruption frequency consistently lower than 0.12 over the last three years. These four businesses explained their good results for previous water performance reviews. Wannon Water, North East Water and Central Highlands Water attributed their low customer interruption frequencies to proactive renewal programs and valve installation and replacement works. Other contributing factors cited were relatively stable sandy soils in its supply areas (Wannon Water), relatively young infrastructure (North East Water), works on mains and new subdivisions being conducted under high pressure (Coliban Water and Central Highlands Water), and temporary service provision (Coliban Water).

Westernport Water consistently reported the highest annual customer interruption frequency, with an average of 0.94 over the five-year period. It had the highest results both for planned and unplanned interruption frequencies but its annual results for the latter were falling over time. Its ongoing air scouring program to clean pipes and maintain a high water quality again contributed to the planned interruptions in 2010-11. There was also a significant unplanned interruption when the main water supply line on the bridge to Phillip Island burst in December 2010. Work on an under-channel pipeline to provide an alternate supply main to the island commenced in July 2011.

Figure 5.2 Customer interruption frequency
(interruptions per customer)



The timing of customer interruptions, as well as the frequency, affects the inconvenience caused to customers. Customer interruptions during peak hours of water use occur from 5am–9am and 5pm–11pm.



In 2010-11 Coliban Water and Western Water reported no customer planned interruptions during peak hours. Another 12 businesses reported peak hour customer planned interruption rates of less than 0.01 per customer, an improvement over last year's results of eight businesses. Westernport Water reported the highest result for the fifth straight year, with a frequency of 0.04 planned interruptions per customer, advising that the duration of the air scouring process necessitates some interruptions during peak hours of water use.

5.5 Average duration of interruptions

Average interruption duration indicates how long it will take, on average, to restore supply when an interruption occurs. 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 for businesses to establish practices and procedures to ensure the timely restoration of supply when an interruption does occur.

In 2010-11, the average duration of planned water supply interruptions across the state was 158.9 minutes, a slight decrease from 160 minutes in 2009-10 (figure 5.3). Performance ranged from zero minutes for Coliban Water (due to zero planned supply interruptions) to 181 minutes (South East Water). Only three of the 16 businesses (Coliban Water, Lower Murray Water and North East Water) reported average duration of planned interruptions lower than 100 minutes for 2010-11.

Eight businesses reported improvements in average duration of planned interruptions compared with 2009-10. Coliban Water and Central Highlands Water reported the most substantial decreases, with 100 per cent and 27 per cent respectively.

Yarra Valley Water reported no change in its results, while the remaining six businesses reported deteriorations in their average duration of planned interruptions. Goulburn Valley Water reported the largest increase (41 per cent). This rise reversed the fall it recorded in 2009-10 (to its best result of 73 minutes) and returned its average duration of planned interruptions to levels recorded in earlier years. Westernport Water followed with a 21 per cent increase, the result of this year's air scouring program.

From 2006-07 to 2010-11 Coliban Water maintained the lowest average duration of planned interruptions among the businesses.

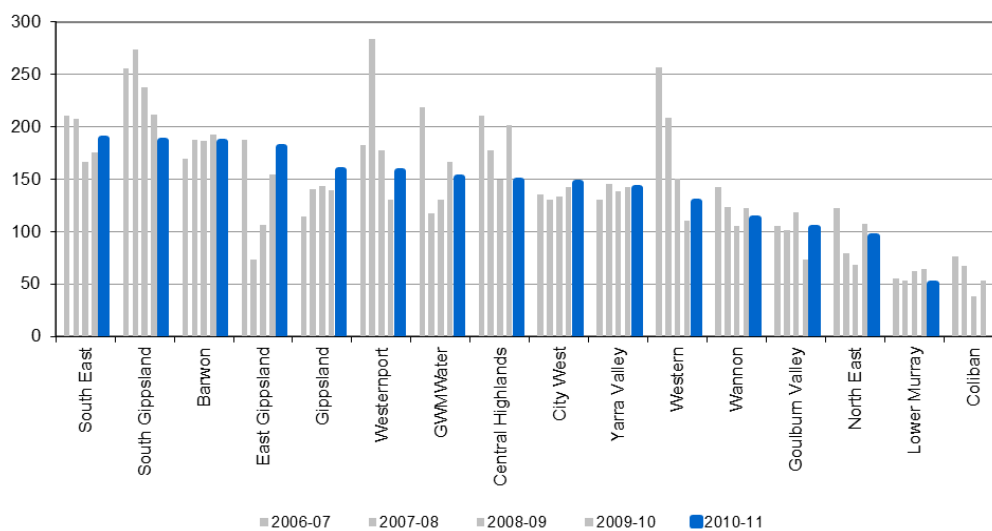
South Gippsland Water had the highest average duration of planned interruptions between 2006-07 and 2010-11, at 233 minutes. However, its results fell consistently over the period. Other businesses with high average duration of planned interruptions were South East Water (190 minutes), Westernport Water (187 minutes), and Barwon Water (184 minutes). Unlike South Gippsland Water, these three businesses' results fluctuated over the same period.

South Gippsland Water previously advised that it uses its full 320 minutes allowed for planned outages under its service standard to ensure maximum benefit from planned air scouring activities. Westernport Water and Barwon Water have attributed their relatively high duration for planned interruptions to their respective air scouring programs, aimed at maintaining high water quality.



South East Water advised that the nature of the work typically makes planned water supply interruptions longer than unplanned interruptions. A higher proportion of planned interruptions over recent years were associated with developers connecting their subdivisions to the water supply network. These connections can take the full day, resulting in high average durations of planned water supply interruptions; normal working hours are 9am–4pm, amounting to 420 minutes. However, planned interruption times are minimised by ensuring that the system is recharged immediately after the developer works are completed.

Figure 5.3 Average duration of planned interruptions (minutes)



For unplanned interruptions, the state average increased from 99 minutes in 2009-10 to 110 minutes in 2010-11. Average durations ranged from 55 minutes (Lower Murray Water) to 274 minutes (Coliban Water) (figure 5.4). Ten of the 16 businesses reported average duration of unplanned interruptions of 100 minutes or less.

Only five businesses reported improvements in average duration of unplanned interruptions between 2009-10 and 2010-11. They are East Gippsland Water and Lower Murray Water (both falling 17 per cent); Barwon Water and North East Water (both falling 12 per cent); and Gippsland Water (falling 3 per cent). The first two businesses' results fluctuated over the last five years, but both recorded their best results to date in 2010-11. The remaining three businesses' results fell consistently over the period.

Ten businesses reported an increase in their average duration of unplanned interruptions between 2009-10 and 2010-11. Coliban Water reported the highest (173 per cent), followed by Westernport Water (71 per cent) and Central Highlands Water (55 per cent). Coliban Water's increase was caused by the major flooding in January 2011 (the data included the water supply outages to flooded towns such as Rochester), while Westernport Water's increase was caused by the burst main supply line to Phillip Island described above.

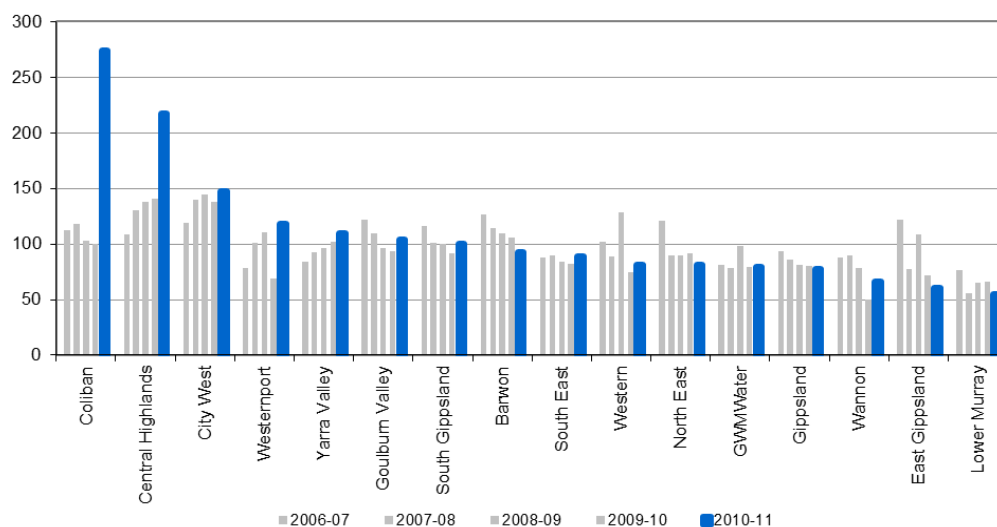


Between 2006-07 and 2010-11 Lower Murray Water and Wannon Water maintained the lowest average duration of unplanned interruptions, with 64 minutes and 74 minutes respectively. By contrast, Central Highlands Water and City West Water had the highest average duration of unplanned interruptions over the same period, with 147 minutes and 138 minutes respectively.

Central Highlands Water is implementing workforce changes, improving its customer contact centre and contracting third party civil companies to lower the duration of interruptions, which had been falling over the last five years. The noticeable increase in 2010-11 was largely caused by the unforeseen effect of three extreme rainfall events.

City West Water changed its practice for shutting down failed water mains, which affected its performance in this area. Before the recent drought period, City West Water would let water run until the repair crew arrived on site and then shut down the main to minimise the duration of the outage. However, now the first response assessor turns the water off when he arrives (in most instances) to minimise water losses, consequently resulting in a longer supply interruption duration.

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). Therefore, businesses can improve overall reliability by reducing the frequency of interruptions, reducing the number of customers affected with each interruption event or by targeting the duration of interruptions. Businesses are likely to pursue a combination of these approaches to improve reliability.



In 2010-11 the average customer minutes off supply for water supply interruptions ranged from 5 minutes (Wannon Water) to 133 minutes (Westernport Water) (figure 5.5). Eleven of the 16 businesses reported customer minutes off supply of less than 50 minutes. The weighted average across all businesses was around 34 minutes between 2005-06 and 2007-08, falling to 31 minutes in 2008-09, 28 minutes in 2009-10 and 29 minutes in 2010-11.

Six businesses reported improvements in average customer minutes off supply between 2009-10 and 2010-11. GWMWater reported the most substantial decrease (39 per cent) with 59 minutes in 2010-11, down from 96 minutes in 2009-10. Lower Murray Water and South Gippsland Water followed with 36 per cent and 27 per cent decreases respectively. Lower Murray Water's results have fallen each year since 2006-07.

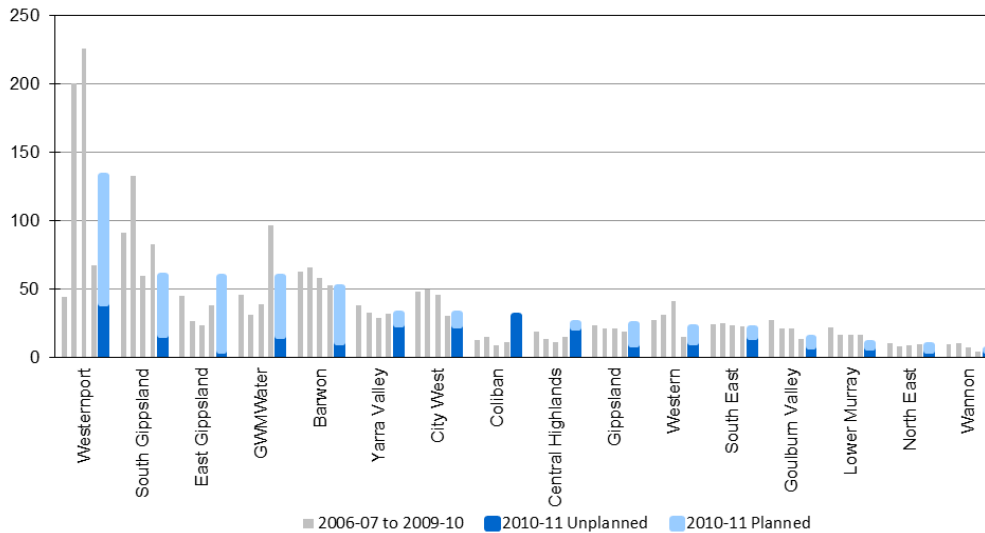
The remaining 10 businesses reported deteriorations in their average customer minutes off supply between 2009-10 and 2010-11. Coliban Water reported the largest increase (182 per cent) from 11 minutes in 2009-10 to 31 minutes in 2010-11. This result (its worst relative to previous years, but good relative to other businesses) reflected the effects of the floods on water supply. Westernport Water's 133 minutes in 2010-11 was a 97 per cent increase from 67 minutes in 2009-10 (its best year relative to previous years). The main reasons for this increase were the air scouring program and the burst main supply line to Phillip Island described above in section 5.3. Central Highlands Water, which consistently performed well between 2006-07 and 2010-11, also reported a substantial change since last year — a 68 per cent increase to 25 minutes. This is its highest result to date, but it is still low compared with most businesses. East Gippsland Water followed with a 57 per cent increase, and recorded its highest result (59 minutes) for the last five years.

From 2006-07 to 2010-11 Wannon Water and North East Water maintained the lowest average customer minutes off supply, with 7 minutes and 9 minutes respectively. Both businesses previously explained that their ongoing valve replacement programs contributed to reduced shutdown areas and consequently lower minutes off supply. Other factors included the age of its infrastructure (North East Water), and its mains renewal program and sandy soils (Wannon Water).

Westernport Water and South Gippsland Water had the highest average customer minutes off supply over the same period, with 134 minutes and 85 minutes respectively. Their annual results also fluctuated drastically over the last five-years. In the past, both businesses explained that extensive cleaning programs resulted in the high number of minutes off supply. Westernport Water also commented that its higher customer minutes off supply for planned interruptions reflected its air scouring program.



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 have received poor service with a higher number of interruptions.

Seven of the 16 businesses reported less than 10 per cent of customers experiencing one or more unplanned interruptions in 2010-11. North East Water (5.0 per cent) and Wannon Water (5.4 per cent) had the lowest interruption rates. Businesses with substantially higher interruption rates were Westernport Water (24.8 per cent), South Gippsland Water (16.2 per cent), and Yarra Valley Water (16.0 per cent).

South Gippsland Water reported the highest rate of multiple interruptions (two or more unplanned interruptions), with 4.4 per cent, followed by Yarra Valley Water and Western Water (both with 4.1 per cent).

Businesses also report 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 three hours. Eight businesses reported that over 90 per cent of unplanned interruptions were restored within three hours; City West Water was the lowest at 70.7 per cent. Fourteen businesses reported that at least 95 per cent of unplanned interruptions were restored within five hours. All businesses reported that over 98 per cent of unplanned interruptions were restored within 12 hours. Eleven of them even restored all unplanned interruptions within 12 hours.



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.

Historically, Coliban Water and Yarra Valley Water reported less favourable results than the other businesses across the indicators for sewerage service reliability:

- Yarra Valley Water's sewer assets continue to be affected by climatic conditions, prevailing geology and high vegetation (with tree roots contributing to high blockage rates). Yarra Valley Water is actively improving its asset performance by implementing a new management approach to its sewers. Processes focus strongly on rapid response and restoration of the service.
- Coliban Water experiences a high number of blockages due to the age, condition and material of sewer pipes. The number of blockages fell over recent years due to an active blockage reduction program, but the number of spills to customers' properties remains steady.

5.9 Frequency of sewer blockages

A sewer blockage is a partial or total obstruction of a sewer main that impedes sewage flow. This 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. A business's asset management practices will have considerable bearing on 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.



In 2010-11 the weighted average rate of sewer blockages was 19.7 blockages per 100 kilometres of sewer main, compared with 24.8 in 2009-10 and 26.0 in 2008-09 (figure 5.6). This is the largest reduction in blockages since reporting began, with most water businesses showing improvements in performance and only one showing an increase in blockages.

Across the businesses, performance ranged from 8.6 to 40.8 blockages per 100 kilometres. The businesses with the lowest rate of sewer blockages were East Gippsland Water (8.8 blockages per 100 kilometres of sewer main) and Westernport Water (8.6 blockages per 100 kilometres of sewer main). As in previous years, Coliban Water and Yarra Valley Water reported the two highest sewer blockage rates (40.8 and 40.7 per 100 kilometres of sewer main respectively).

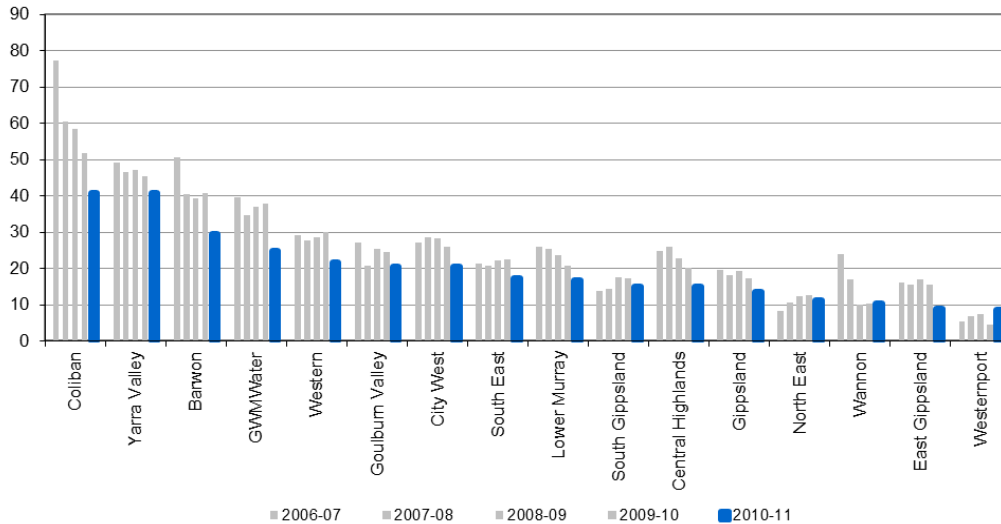
GWMWater and Barwon Water recorded the greatest reductions over the year, with their average rates of sewer blockages down 13.0 and 11.1 blockages per 100 kilometres of sewer main respectively. Coliban Water also recorded a large reduction over the year, down to 40.8 in 2010-11 from 51.7 in 2009-10. Historically, Coliban Water has a high number of blockages relative to other water businesses, but this number fell consistently over recent years. Blockages reported by Coliban Water fell by 47 per cent between 2006-07 and 2010-11. Wannon Water was the only business to record a better result over the same period, down 56 per cent.

Businesses are also asked to report on the number of customers impacted by sewer blockages caused by a fault in the business's system, identifying where a customer has experienced multiple sewer blockages during the year. This parameter can be very subjective, as it is difficult to determine how many customers are actually affected by a particular sewer blockage, unlike water where the precise number of affected customers can be 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 further upstream of the blockage and spill location might still be able to discharge into the sewer.

The majority of water businesses continue to report that less than 1 per cent of their customers are experiencing one or more sewer blockages per year. Whilst some businesses are not currently able to track and report on multiple blockages for a specific customer, the majority that do report the proportion of customers experiencing multiple blockages was less than 0.1 per cent.



Figure 5.6 Sewer blockages
(per 100 kilometres of sewer main)



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 800 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 2010-11:

- Fourteen of the sixteen water businesses reported five or less priority one sewer spills per 100 kilometres of sewer main. Historically, 11 businesses had five-year averages of less than one spill per 100 kilometres of sewer main, with only two businesses having averages over five for the same period.
- Coliban Water continues to have a considerably greater number of priority one spills than other businesses, which they attributed to a high number of blockages caused by the age, condition and material of sewer points. In spite of this, Coliban again reduced its number of priority one spills in 2010-11, with 10.2 per 100 kilometres of sewer main compared with 15.3 in 2009-10 and 25.7 in 2008-09.
- Yarra Valley Water again reported a much greater number of priority two spills than other businesses, with 31.5 per 100 kilometres of sewer main. This is similar to the 32.8 reported in 2009-10, and for previous years (figure 5.7).

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

Containment of spills

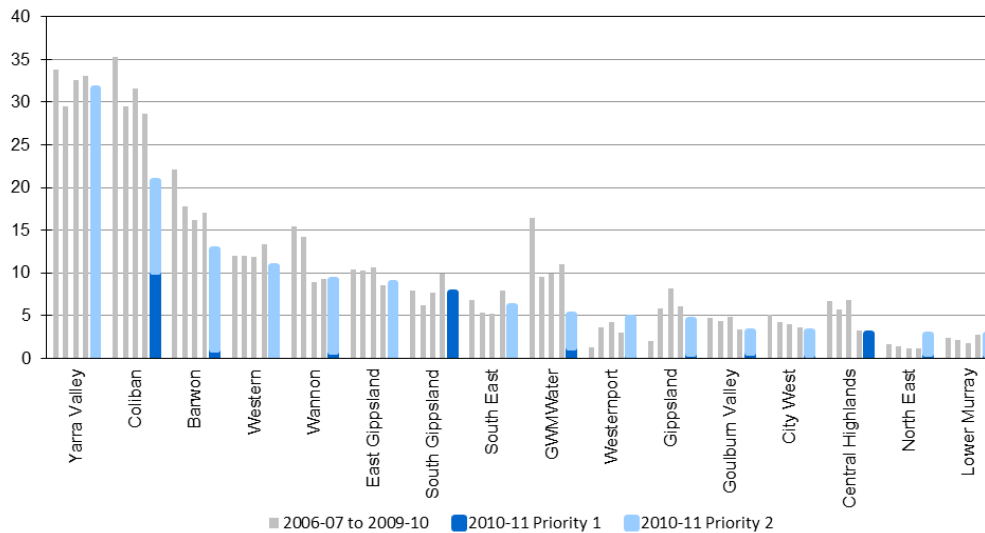
Reporting the percentage of spills that are fully contained within five hours reflects the timeliness with which businesses contain sewer spills from branch and reticulation sewers.

In 2010-11 seven businesses contained 100 per cent of sewer spills within five hours, down from 11 hours last year. Six additional businesses contained more than 96 per cent of spills within five hours. The remaining three businesses were Gippsland Water with 94.3 per cent, Lower Murray Water with 94.1 per cent and Westernport with 87.5 per cent. These businesses still performed well because the shortfalls were very small: four of 70 total spills for Gippsland Water, one of 17 total spills for Lower Murray Water, and two of 16 total spills for Westernport Water.

Historically, water businesses have responded quickly to contain sewer spills. Over the last five years, the sector had an average of 98.6 per cent of spills contained within 5 hours and 10 water businesses had five-year averages over 99 per cent.



Figure 5.7 Sewer spills from reticulation and branch sewers
(per 100 kilometres of sewer main)



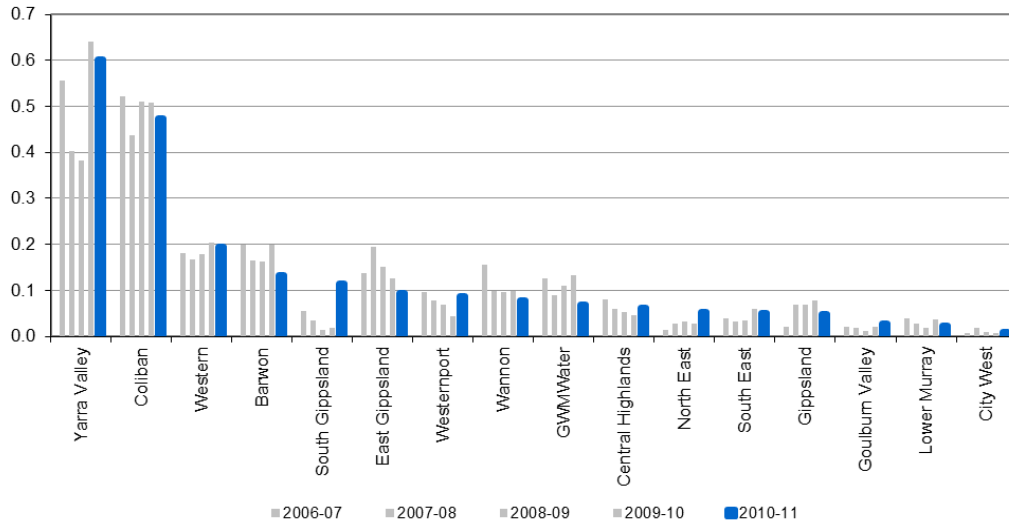
5.11 Sewer spills – customer properties and the environment

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

Eleven businesses reported rates of sewer spills onto customers’ properties of 0.10 or less per 100 customers. City West Water reported the lowest figure for the fifth straight year, with less than 0.01 per 100 customers in 2010-11 (figure 5.8). For the fifth year in row, Yarra Valley Water (0.60 per 100 customers) and Coliban Water (0.47 per 100 customers) reported the two highest rates of spills to customers’ properties. With higher rates of sewer blockages and spills than the other businesses, it is not surprising that this results in a higher proportion of customers with sewage entering their properties.



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.

This chapter reports on the urban water businesses' 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 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 *E. coli* means that water may be contaminated with faecal material. These organisms should not be present in drinking water.

In 2010-11, 14 of the 16 urban water businesses met the *Safe Drinking Water Regulations* requirement. This requirement specifies that at least 98 per cent of all samples of drinking water collected for a water supply zone in any 12 month period contain no *E. coli* per 100 millilitres of drinking water.

Central Highlands Water reported 98.1 per cent of customers received drinking water that complied with the *E. coli* standard, after a minor noncompliance was detected for the Ballan water supply zone. Coliban Water reported 98.7 per cent of customers received compliant water, with two noncompliant samples detected for the Maldon area.

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

In 2010-11 all urban water businesses, except GMMWater, delivered water that met the turbidity levels set in the *Safe Drinking Water Regulations*. The Regulations require that at least 95 per



cent of samples collected for a drinking water supply zone in a 12 month period be below 5.0 NTU.

GWMWater steadily improved the percentage of customers receiving water that meets the turbidity limits between 2007-08 and 2009-10. However, extreme rain events in 2010-11 caused a large amount of residual bushfire ash and debris to be washed into Lake Bellfield (the major source of supply for the Wimmera Mallee Pipeline) and the January flooding washed huge amounts of silt and debris into rivers (affecting the Murray River supply). These events resulted in 11 of GWMWater's 35 drinking water supply zones (mostly smaller townships) not meeting the turbidity standards, with 89 per cent of customers affected. GWMWater managed these events with their customers, providing regular information updates.

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.

Most water businesses maintained or reduced rates of overall water complaints over the years (figure 6.1). Overall, Victorian water customers made 0.26 water quality complaints per 100 customers in 2010-11, compared with 0.29 recorded in 2009-10.

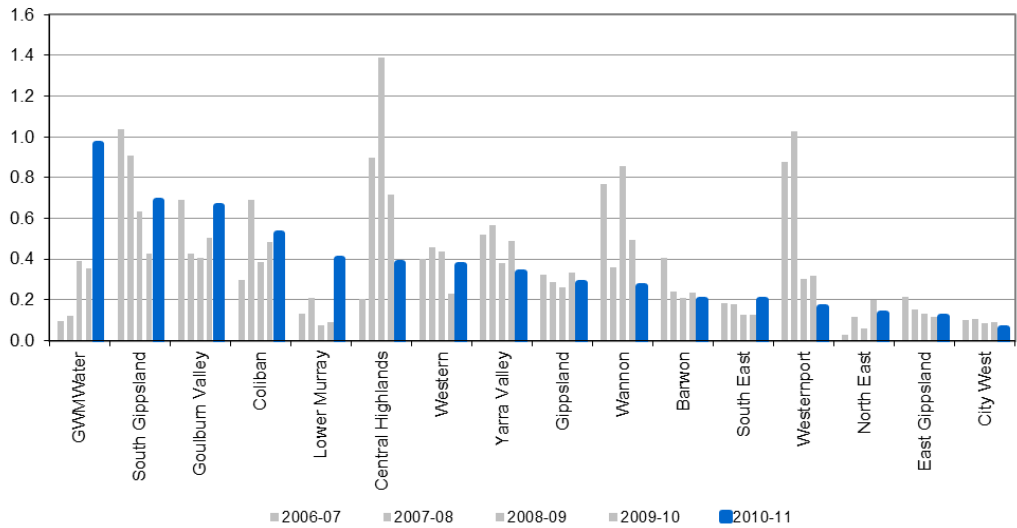
GWMWater reported the highest rate of water quality complaints at 0.97 per 100 customers. This is a substantial increase from the 2009-10 figure of 0.35, primarily because colour complaints increased almost five-fold from 0.15 to 0.71. GWMWater advised that this increase was directly attributable to the large January floods affecting the water quality in its major storages.

Lower Murray Water also reported a substantial increase in water quality complaints compared with previous years, with 0.40 water quality complaints per 100 customers in 2010-11, up from 0.09 recorded in 2009-10. The Murray River was affected by black water events caused by this year's unseasonably above-average rainfall and flood events, producing poor quality raw water. Lower Murray Water treated the water extracted from the Murray River to meet World Health standards, but customers reported odour, taste and colour concerns.

Westernport Water, Central Highlands Water and Wannon Water all reported substantially fewer water quality complaints than in previous years. From 2007-08 to 2009-10, Central Highlands Water recorded the highest water quality complaint rates in the state. This was attributed to the necessary use of bore water with higher salinity and sediment in the Ballarat zone because there was little surface water available. Water quality complaints fell rapidly with good rainfall in 2010 and a return to good surface water supplies, which negated the need for bore water. At this time, Central Highlands Water's complaint rate fell by over 45 per cent, down from 0.72 in 2009-10 to 0.38 complaints per 100 customers in 2010-11.



Figure 6.1 Water quality complaints — all causes
(per 100 customers)



The majority of water businesses reported that colour was the main cause of complaint — except North East Water where taste/odour was the main cause.





7 ENVIRONMENTAL

7.1 Background

This chapter provides information on the water businesses' environmental performance. It covers sewage treatment and compliance, effluent recycling, biosolids reuse and greenhouse gas emissions.

7.2 Sewage effluent treatment volumes

A sewerage system will receive waste water from various sources, including domestic sewage, non-domestic sewage, trade waste and other sources such as 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 may remove other targeted contaminants of concern.

The total volume of sewage treated in Victoria rose substantially to 496 988 megalitres in 2010-11, from 416 539 megalitres in 2009-10. The percentage increase was similar for metropolitan businesses and regional businesses (20 per cent and 19 per cent respectively). These large increases in sewage volume were the result of the heavy rainfalls experienced in 2010-11, with larger volumes of rain and floodwater entering the sewerage systems across the state. GWMWater and Central Highlands Water reported the largest percentage increases in sewage volume (36 per cent and 34 per cent respectively).

Lower Murray Water and Gippsland Water were the only businesses to treat sewage to only a primary level in 2010-11, with their combined primary volumes accounting for 2 per cent of total sewage treated in Victoria. About 84 per cent of Victorian sewage was treated to a secondary level. This included all of Melbourne Water's treatment, which accounted for 66 per cent of the state's total sewage. The proportion of sewage treated to a tertiary level in 2010-11 was 14 per cent, increasing for the fourth year in a row. Goulburn Valley Water reported a six-fold increase in tertiary treatment volume, up to 3723 megalitres from 580 megalitres in 2009-10.



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 that sewage treatment plant operators ensure that the sustainable reuse of wastewater and treatment sludge is maximised 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 non-potable 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.

Figure 7.1 shows the proportion of treated effluent that is recycled by each business. Table 7.1 shows the actual volumes reused for each business.

Across Victoria, 15 per cent of all effluent was recycled in 2010-11, almost half that of previous years (which peaked at 31 per cent in 2008-09). Every metropolitan and regional business experienced a decrease in the proportion of effluent reuse in 2010-11, with falls ranging from 1 per cent (for East Gippsland Water) to over 70 per cent (for Coliban Water and South Gippsland Water). Some of this decrease reflected the increase in effluent volume produced, however table 7.1 shows there was a 35 per cent decrease in the actual volume of effluent reused across the state last year.

In the regional areas, Coliban Water and South Gippsland Water's reuse volumes were down almost 70 per cent and several other businesses experienced reductions of 30-40 per cent. The higher rainfall throughout the year, along with the specific extreme rainfall events and flooding, drove this reduction in demand for recycled water; customers had an abundance of surface water available. This is reflected in the substantial decrease in effluent reuse for agricultural purposes, which historically accounted for the largest share of effluent reuse for the regional businesses. Despite this, both East Gippsland Water and GWMWater saw increases in effluent reuse volume for 2010-11, with East Gippsland Water managing 99 per cent reuse, which is just below the 100 per cent level achieved in the four previous years.

The situation was similar for the metropolitan area. Melbourne Water and South East Water experienced large effluent reuse volume reductions of about 40 per cent, while Yarra Valley Water was down 8 per cent. By contrast, City West Water managed a small increase. Melbourne Water's reduction of over 28 000 megalitres accounted for 70 per cent of the state's total fall, with demand for recycled water for agriculture falling steeply, as well as the demand by the metropolitan retailers to supply their own agricultural and domestic customers.



Figure 7.1 Proportion of effluent reused
(per cent)

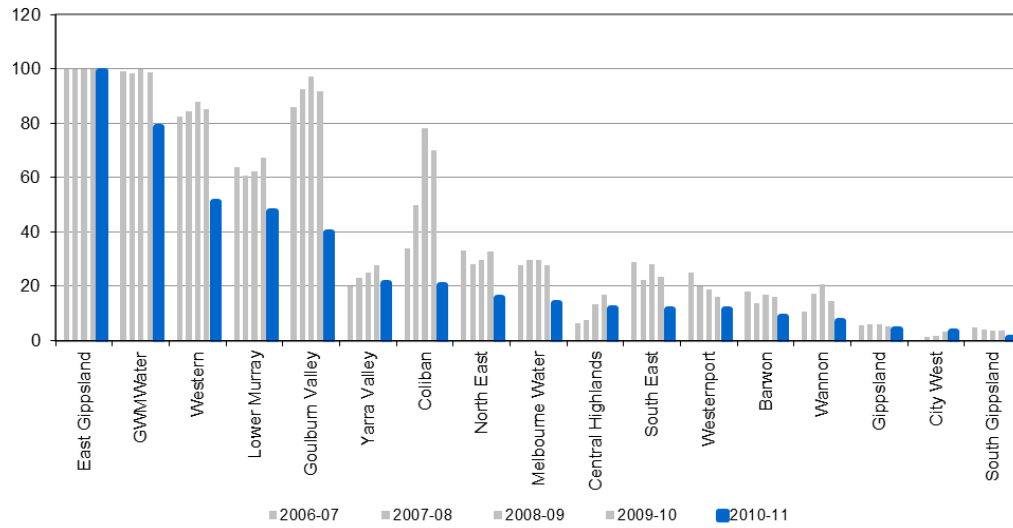




Table 7.1 Volume of effluent reused
(megalitres)

	2007-08	2008-09	2009-10	2010-11	Change in 2010-11	Percentage Change
Melbourne Water	77 914	77 109	74 818	46 713	-28 105	-38
City West	73	71	154	175	21	+14
South East	2 569	3 298	2 865	1 653	-1 212	-42
Yarra Valley	2 094	2 252	2 639	2 425	-213	-8
Barwon	2 776	3 159	3 017	1 997	-1 020	-34
Central Highlands	618	996	1 504	1 410	-94	-6
Coliban	3 290	4 601	5 483	1 781	-3 702	-68
East Gippsland	2 730	2 370	2 153	2 511	359	+17
Gippsland	1 354	1 125	1 171	1 113	-58	-5
Goulburn Valley	6 380	6 992	6 649	4 021	-2 628	-40
GWMWater	1 944	1 951	1 856	2 036	180	+10
Lower Murray	2 604	2 588	2 707	2 735	28	+1
North East	1 749	1 642	2 004	1 312	-693	-35
South Gippsland	144	122	128	40	-88	-69
Wannon	1 615	1 759	1 453	825	-628	-43
Western	5 284	5 327	6 288	4 053	-2 235	-36
Westernport	212	202	181	163	-17	-10
Total	113 351	115 565	115 071	74 964	-40 106	-35

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.

The reporting protocol only counts biosolids as being 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. Both GWMWater and Lower Murray Water reported zero biosolids in 2010-11 because no desludging activities were carried out.

In any given year, a water business can accumulate (stockpile) biosolids without disposing of



any; therefore, a zero reuse figure does not necessarily imply that a business does not find reuse opportunities for its biosolids. Correspondingly, reuse percentages in excess of 100 per cent indicate that some of the stockpiled material from previous years was used. To help produce a clearer picture of the longer term biosolids management for the businesses, a four-year average reuse figure is included in figure 7.2 along with the current year's reuse as a percentage of this year's biosolids production.

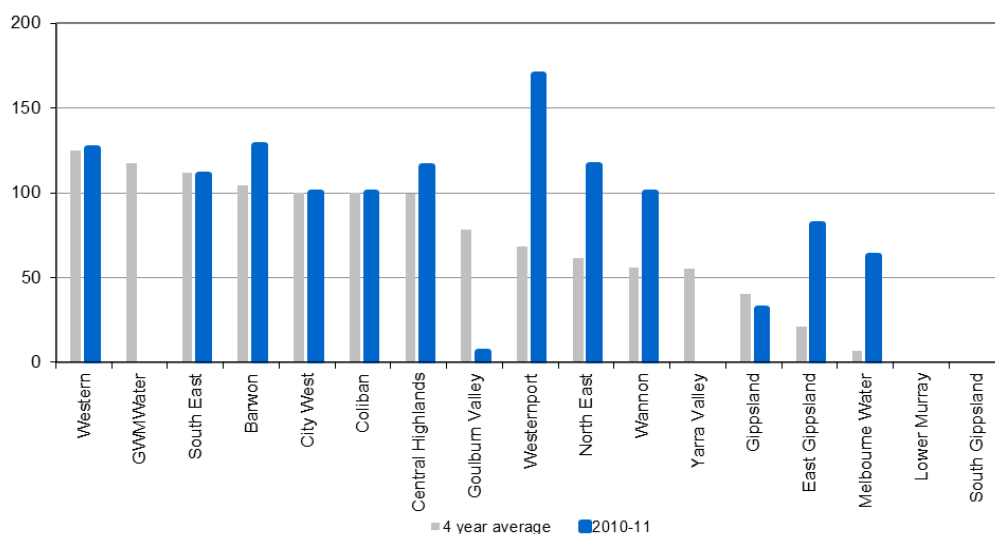
Overall, 67 per cent of biosolids produced in 2010-11 were reused, which substantially exceeded the percentages recorded in any of the four previous years by at least 22 percentage points. This increase was largely driven by the almost 13 000 tonnes of biosolids reused by Melbourne Water, which is the largest amount reported by any business since 2006-07 (when Barwon Water reused 14 436 tonnes). Melbourne Water advised that the clay-rich biosolids are being trialled as geotechnical fill for roads, in consultation with the construction industry. This trial at the Eastern Treatment Plant is designed to develop the use of biosolids in large construction projects requiring a stable fill (for example, freeway ramps).

By contrast, the average proportion of biosolids reused by regional businesses decreased from 97 per cent to 71 per cent.

Two metropolitan businesses and seven regional businesses reported biosolids reuse of 100 per cent or more in 2010-11. Seven businesses have four-year averages at or above 100 per cent, which suggests that these businesses are achieving full reuse of their generated biosolids.

GWMWater and Yarra Valley Water did not reuse any biosolids in 2010-11. Goulburn Valley Water's reuse was very low, but its four-year averages suggested that most, if not all, of their biosolids are typically reused. Lower Murray Water and South Gippsland Water did not report any reuse of biosolids in the last four years, but they typically produce lower quantities than most other businesses.

Figure 7.2 Proportion of biosolids reused (per cent)



Note: The four-year average refers to the proportions of biosolids reused between 2007-08 and 2010-11.



7.5 Greenhouse gas emissions

Table 7.2 shows the net greenhouse gas emissions produced by each of the businesses from 2007-08 to 2010-11 (these results include any offsets claimed by the business). The calculations are based on the conversion factors issued by the Australian Greenhouse Office for the years 2005-06 to 2007-08. From 2008-09 greenhouse gas emissions are based on the framework of the National Greenhouse and Energy Reporting System (NGERS), with Melbourne Water the only business required to report to the Australian Government's Department of Climate Change and Energy Efficiency.

Comparing different businesses' net carbon dioxide equivalent (CO₂-e) emissions should be done with caution due to 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.

Victorian urban water businesses achieved a decrease in net CO₂-e emissions for the second consecutive year with 782 354 tonnes recorded in 2010-11, down from 822 160 tonnes in 2009-10. The overall emission per customer for all businesses in 2010-11 was 0.36 tonnes, which is below the 0.39 tonnes recorded the previous year. Metropolitan businesses achieved the same level of emissions per customer as in 2009-10, which was 0.27 tonnes. Regional businesses averaged 0.61 tonnes in 2010-11, which is substantially lower than the 0.73 tonnes reported in the previous year.

Having a relatively larger scale of operations, Melbourne Water remains the largest net CO₂-e emitter and accounted for 48 per cent of the net total. Gippsland Water was the second largest, followed by Barwon Water. Looking at emissions per customer, Gippsland Water had the highest level of CO₂-e, followed by Wannon Water, North East Water, Lower Murray Water and South Gippsland Water. Individual businesses still managed to maintain or achieve lower levels of emissions per customer over the year, except Barwon Water and Lower Murray Water.



Table 7.2 Historic net greenhouse gas emissions
(equivalent tonnes of CO₂)

	2007-08	2008-09	2009-10	2010-11	Percent- age change	Per customer
Melbourne Water	284 464	376 157	351 071	371 760	+6	0.23
City West	3 432	5 318	2 388	-1 225	-151	0.00
South East	27 113	24 488	29 023	31 361	+8	0.05
Yarra Valley	25 985	30 725	27 077	29 041	+7	0.04
Barwon	54 094	52 485	52 348	57 170	+9	0.45
Central Highlands	26 223	56 483	51 251	18 782	-63	0.33
Coliban	44 898	49 905	51 396	32 674	-36	0.54
East Gippsland	7 973	8 525	8 846	8 687	-2	0.47
Gippsland	76 596	70 886	73 288	68 798	-6	1.19
Goulburn Valley	29 983	32 707	29 742	24 122	-19	0.51
GWMWater	14 844	13 434	19 031	15 590	-18	0.59
Lower Murray	21 925	28 686	21 007	22 820	+9	0.82
North East	24 473	32 922	36 587	35 671	-3	0.86
South Gippsland	6 895	11 458	13 209	12 560	-5	0.81
Wannon	37 848	39 025	30 734	28 578	-7	0.83
Western	23 484	24 503	20 846	21 620	+4	0.44
Westernport	4 872	4 490	4 317	4 344	+1	0.31
Total	715 101	862 198	822 160	782 354	-5	0.36

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 CO₂-e emissions by each water business activity. Similar to previous years, sewage treatment processes were the biggest contributor of greenhouse gas emissions and accounted for 68 per cent of the gross emissions (that is, not including offsets) in 2010-11. This was followed by water treatment processes, responsible for 36 per cent of the gross total.

All metropolitan businesses reported CO₂-e emissions offsets, as did six regional businesses. City West Water in particular had a higher level of offsets than its gross emissions, resulting in a negative figure reported for net emissions. Relative to the respective gross emission levels, Melbourne Water had the highest amount of offsets (21 per cent of gross emissions), followed by South East Water (19 per cent), and Western Water and GWMWater (both 13 per cent). Overall offsets increased from 88 551 tonnes in 2009-10 to 105 408 tonnes in 2010-11. Most of the offsets were purchased through recognised offset schemes.



Table 7.3 Sources of greenhouse gas emissions
(equivalent tonnes of CO₂)

	Water	Sewerage	Transport	Other	Offsets	Total ^a
Melbourne Water	12 3750	307 726	4 138	15 421	79 275	371 760
City West	244	8 060	1 329	1 743	12 600	-1 225
South East	5 505	28 428	823	2 523	5 918	31 361
Yarra Valley	5 501	18 271	2 374	3 178	283	29 041
Barwon	8 265	43 792	2 491	2 623	0	57 170
Central Highlands	4 238	12 347	1 079	1 133	15	18 782
Coliban	9 627	21 421	986	641	0	32 674
East Gippsland	4 624	3 488	291	289	5	8 687
Gippsland	9 664	52 366	2 079	4 689	0	68 798
Goulburn Valley	7 453	15 234	1 070	365	0	24 122
GWMWater	5 695	9 827	1 201	870	2 003	15 590
Lower Murray	15 239	8 061	887	773	2 140	22 820
North East	6 655	27 590	814	934	322	35 671
South Gippsland	1 909	9 823	623	204	0	12 560
Wannon	9 923	17 178	801	676	0	28 578
Western	7 599	14 916	638	1 314	2 847	21 620
Westernport	1 253	2 614	234	243	0	4 344
Total	227 144	601 142	21 857	37 619	105 408	782 354

^a Total CO₂-e emissions are net of offsets



8 STATUS OF MAJOR PROJECTS

Table 8.1 describes the projects that each business scheduled for completion in 2010-11, and whether or not the project was completed. A large tick indicates that the project was completed, while a small tick indicates that the core elements were completed, effectively delivering the intended project outcome, but some residual work remained (for example, site restoration, or decommissioning redundant equipment). The table also lists projects that were to be completed prior to 2010-11, but were delayed for various reasons. Original and new completion dates are shown in the table.

In 2010-11, \$1.64 billion of capital expenditure was undertaken by the Victorian water industry. Capital expenditure on water was \$623 million and sewerage \$1.02 billion.

It is noted that the Wonthaggi Desalination Plant is a state government project managed by the Department of Sustainability and Environment. It is not a capital project of the water businesses.

There were 46 major projects either identified by water businesses in the last price review to be completed in 2010-11 or delayed from previous years. Twenty-one of these projects were completed, with another five projects largely completed by the time of publication of this report. Of the remaining projects, 17 are delayed while three have been deferred in the long term or cancelled due to changes to needs and priorities. Many of the delays this year were due to wet weather affecting construction. Some projects are also delayed due to matters beyond the direct control of the water businesses, such as where local government approvals are required or subject to planning appeals. In some instances, water businesses chose to defer a scheduled project when the circumstances driving the project changed, reprioritising resource allocation and avoiding unnecessary expenditure.

Looking forward, any streamlining of the Victorian planning approval processes should assist water businesses to better meet their major project delivery timelines.

Water businesses have started developing their Water Plan 3 business plans for the next (third) regulatory period, which commences in July 2013. Capital expenditure increased significantly during the current regulatory period to provide necessary infrastructure and water supply augmentation projects, and this had a direct effect through price increases. The Commission expects capital expenditure to return to historic levels in the next regulatory period, reflecting an improved water supply outlook.

The Commission released a guidance paper for Water Plan 3, with a stronger emphasis on longer term capital planning, reflecting the number of reported project delays during the current period. Proposals for capital expenditure will require a strong business case and justification, including considered options and risks, a robust project cost estimate, and a realistic project schedule. Extra scrutiny will be applied for those businesses with a history of failing to meet target completion dates or budgets.



Table 8.1 Status of projects nominated for completion in 2010-11

Business	Project Description	Completion Date	Complete	Comments
City West Water	• Altona recycled water plant	2010-11	✓	The project was commissioned/launched in April 2011.
	• Derrimut interceptor sewer	2010-11, delayed Due: 2011-12		The project is now forecast to be completed in 2011-12. Project has experienced delays in obtaining local government and third party approvals.
South East Water	• Pakenham – Narre Warren sewer	2010-11, delayed Due: 2011-12	✓	The project has been partially commissioned in August 2011 to allow treated effluent to be pumped from Pakenham Sewage Treatment Plant to the Eastern Treatment Plant. Will be fully operation by end 2011.
	• Hastings industrial project	2010-11	✓	Completed on schedule.
	• Flinders–Shoreham sewer backlog scheme connections	2010-11	✓	Completed on schedule.
Yarra Valley Water	• Epping–Craigieburn — Section 1	2010-11, delayed		Target at risk. There is a slow rate of industrial development in the catchment. Yarra Valley Water introduced a temporary strategy that involves using the available storage in the constructed pipe section and deferring the commencement of the tunnel section for a number of years. Rates of growth will be monitored so that this project can commence to ensure development needs can be serviced.
	• Epping–Craigieburn — Sections 2 and 3	2009-10, delayed • Section 2 Complete • 2011 for Section 3		Delay for Section 3 caused by different geological conditions from those expected (harder rock) slowing excavation rates. Section 3 to be completed in 2011.
Melbourne Water	• Sludge handling at Winneke Treatment Plant	2010-11	✓	Completed in March 2011.



Business	Project Description	Completion Date	Complete	Comments
	<ul style="list-style-type: none"> Desalination interconnection works 	2010-11	✓	All works completed and commissioned. Completed on scheduled in August for December 2011 operation.
	<ul style="list-style-type: none"> Werribee Aqueduct — replacing sewer aqueduct that crosses the Werribee River 	2009-10, delayed Due: Dec 2010	✓	Completed in February 2011.
	<ul style="list-style-type: none"> Eastern Treatment Plant — sludge processing refurbishment and upgrade 	2009-10, delayed Due: Aug 2011	✓	Recently completed performance proving trials and now in 24 hour operation. Completed August 2011.
	<ul style="list-style-type: none"> Eastern Treatment Plant — implement a new nitrification/denitrification process 	2009-10, delayed Due: Early 2012	✓	Completion of rectification works expected early 2012.
Barwon Water	<ul style="list-style-type: none"> Apollo Bay/Skenes Creek bulk water supply 	2010-11, delayed Due: 2014		Preferred site reassessment needed because of an unexpected planning decision about a residential development proposal for one of the potential sites. Protracted negotiations for acquisition of the land for the storage at the preferred site have caused delays.
	<ul style="list-style-type: none"> Anglesea–Borefield project 	2009-10, delayed Due: 2011-12		Drilling progressing at final production bore site. Project was commissioned in late 2009.
Coliban Water	<ul style="list-style-type: none"> Main Channel refurbishment 	2010-11, delayed Due: 2011-12		Works have been completed on replacing the Back Creek siphon. A contractor has been appointed to complete refurbishment works on two creek crossing structures and erosion prevention on the Coliban Main Channel.
	<ul style="list-style-type: none"> Leitchville and Gunbower water treatment plant 	2009-10, delayed Due: <ul style="list-style-type: none"> Early 2012 for Gunbower Late 2012 for Leitchville 		Design and construct contracts have been awarded for both treatment plant upgrades. Construction has commenced at Gunbower plant.



Business	Project Description	Completion Date	Complete	Comments
Central Highlands Water	<ul style="list-style-type: none"> Country Town Water and Sewerage Schemes 	2010-11, delayed Due: End 2012		Works have commenced and consultation is ongoing. The project is programmed for completion at the end of 2012, subject to approvals and impact of wet weather.
	<ul style="list-style-type: none"> Goldfields Superpipe 	2010-11	✓	Completed on schedule.
	<ul style="list-style-type: none"> Ballarat North and Creswick Waste Water Treatment Plant (WWTP) Upgrades 	2010-11	✓	Completed on schedule.
East Gippsland Water	<ul style="list-style-type: none"> Delivery Tambo Bluff and Banksia Peninsula Sewerage scheme 	2009-10, delayed Due: Jul 2011	✓	Banksia Peninsula Sewerage Scheme was completed in June 2010, and the Tambo Bluff water and sewerage components were put into service in July 2011
Gippsland Water	<ul style="list-style-type: none"> Gippsland Water Factory 	2008-09, delayed Due: Jan 2011	✓	Construction was completed in 2010-11. The Gippsland Water Factory is currently progressing through a two-year proving and optimising period that will identify opportunities for improvement in the wastewater treatment processes at the plant.
	<ul style="list-style-type: none"> Gippsland Water Factory Bio gas 	2008-09, delayed Due: Jan 2011	✓	Completed later than originally scheduled.
Goulburn Valley Water	<ul style="list-style-type: none"> Alexandra–Eildon pipeline 	2009-10	✓	Construction completed in May 2010 but contractor had difficulties in commissioning the pipeline at end of 2009-10. Contractor issues have been resolved and pipeline is now commissioned.
GWMWater	<ul style="list-style-type: none"> Lake Bolac New Sewerage Scheme 	2010-11, delayed Due: Jan 2012	✓	All works under contract and scope of work almost complete. System to be fully operational by January 2012.
	<ul style="list-style-type: none"> St Arnaud's WWTP upgrade 	2010-11, delayed Due: 2011-12		All work under contract and advanced in terms of construction. Expected to be completed in 2011-12.
	<ul style="list-style-type: none"> Taylor's Lake embankment works 	2010-11	✓	Completed on schedule.



Business	Project Description	Completion Date	Complete	Comments
	<ul style="list-style-type: none"> Wimmera Mallee Pipeline 	2009-10, delayed Due: 2010-11	✓	All pipeline and associated infrastructure is complete except some work that has been deferred by agreement with the funding partners. Channel decommissioning has been delayed as a consequence of the Victorian floods in January 2011. The channel decommissioning (\$15 million) will most likely not be completed until the end of 2013, but is effectively a separate project.
	<ul style="list-style-type: none"> Edenhope water supply security 	2009-10, delayed Due: Mar 2012		Reassessment of the possible supply options has reconfirmed current Scrubby Creek bore as the most appropriate aquifer with upgrade of capacity.
Lower Murray Water	<ul style="list-style-type: none"> Red Cliffs Sewage Treatment Plant Decommissioning 	2009-10, delayed Due: 2010-11	✓	Completed later than originally scheduled.
	<ul style="list-style-type: none"> Koorlong Sewage Treatment Plant upgrade and augmentation 	2009-10, delayed Due: 2010-11	✓	Completed later than originally scheduled.
North East Water	<ul style="list-style-type: none"> Bright/Porepunkah Off-stream Storage 	2010-11, delayed Due: 2013-14		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 and a decision by the Minister was reached in late September to allow the project to progress through to the planning stage.
	<ul style="list-style-type: none"> Myrtleford Water Treatment Plant 	2010-11	✓	Project completed. The treatment plant was officially opened by the Minister in October 2011
	<ul style="list-style-type: none"> Mt Beauty/Tawonga Water Quality Improvement project 	2010-11	✓	Completed on schedule.



Business	Project Description	Completion Date	Complete	Comments
	<ul style="list-style-type: none"> Leneva Trunk Sewer 	2010-11, deferred		Project design plans have been completed but work will not proceed in this water plan period due to the shift in Wodonga Council's focus away from the residential growth corridor originally identified. Project is now scheduled for Water Plan 3 and dependent on planning approval. Expected completion date is unknown at this stage.
	<ul style="list-style-type: none"> Loombah Dam Improvements 	2010-11, delayed Due: 2012-13		Tenders have been called for the design and construction of the spillway at Loombah Dam. A contract for the construction scheduled is to be awarded by December 2011. Project expected to be completed in 2012-13.
	<ul style="list-style-type: none"> Regional Headquarters 	2009-10, delayed Due: 2012-13		The Regional Headquarters construction has been forecast to begin in July 2012 with a 12 month construction period.
	<ul style="list-style-type: none"> Beechworth Sewage Treatment Plant Upgrade 	2009-10, delayed Due: Dec 2013		An amendment to the North East Water Corporate licence committed the business to an Ecological Risk Assessment on the discharges from the Beechworth WWTP. Alternative treatment methods are now being considered. Preliminary completion scheduled for December 2013, however final scoping will determine more precise completion date.
South Gippsland Water	<ul style="list-style-type: none"> Meeniyah Sewerage Scheme 	2009-10, delayed Due: Apr 2012	✓	The sewerage scheme was opened during September 2011. Continued wet weather has further delayed the completion of the final lagoon earthworks. However, the approaching summer months will see the completion of the wastewater treatment plant and the laying of the reuse pipelines.
Wannon Water	<ul style="list-style-type: none"> Upgrade Portland Water Reclamation Plant 	2010-11, delayed Due: Dec 2012		The construction contract has been awarded and the contractor has been granted possession of the site. The date for practical completion is 31 December 2012.



Business	Project Description	Completion Date	Complete	Comments
	<ul style="list-style-type: none"> Wannon Water office building 	2009-10, delayed Due: Nov 2010	✓	Project completed in November 2010.
	<ul style="list-style-type: none"> West Portland Sewerage Services 	2008-09, delayed		Tenders for the construction works currently being assessed. Completion date is subject to tenderer selected.
	<ul style="list-style-type: none"> Port Campbell Sewage Treatment Plant and Recycling Works 	2009-10, delayed Due: Before Jul 2012		Following further investigations, the scope for the project was revised to do all the necessary works in a single stage. The project was reviewed and redesigned during 2010-11 with no construction works done in 2010-11. Tenders for the works closed recently, and it is anticipated that the works will be completed prior to 30 June 2012.
Western Water	<ul style="list-style-type: none"> Woodend Recycled Water Plant Upgrade 	2010-11	✓	Completed on schedule.
	<ul style="list-style-type: none"> Merrimu Water Tank 	2009-10, delayed Due: Apr 2011	✓	Completed later than originally scheduled.
Westernport Water	<ul style="list-style-type: none"> Bass River Augmentation 	2009-10, suspended		Recent updates of the Water Supply and Demand Strategy and the interconnection with the Metro Pool have indicated that this project may not be required until post-2030.
	<ul style="list-style-type: none"> Bass River Pipeline extension to Ian Bartlett Water Treatment Plant 	2009-10, deferred		This project is being considered along with the project to upgrade Candowie Reservoir. Likely to proceed in Water Plan 3.