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WATER PERFORMANCE REPORT

PERFORMANCE OF URBAN WATER AND SEWERAGE BUSINESSES 2008-09

APRIL 2010

An appropriate citation for this paper is:

Essential Services Commission 2010, *Performance of Urban Water and Sewerage Businesses 2008-09*, April, Melbourne

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EXECUTIVE SUMMARY

This is the fifth annual report published by the Commission on the performance of all of the Victorian businesses that provide water, sewerage and related services to urban customers. The aim of this report is to stimulate 'competition by comparison' among the urban water businesses and provide Victorian's with insights into the performance of the water sector. The report incorporates data provided by the businesses for the 12 months to June 2009. This data has been independently verified as part of the Commission's audit framework that applies to the Victorian water sector.

The report covers the performance of the three metropolitan water retailers, the 13 regional urban water businesses and Melbourne Water. Specifically, it reports the performance of:

- the three metropolitan water retailers — City West Water, South East Water and Yarra Valley Water
- the 13 regional urban water businesses — Barwon Water, Central Highlands Water, Coliban Water, East Gippsland Water, Goulburn Valley Water, Gippsland Water, GWMWater, Lower Murray Water, North East Water, South Gippsland Water, Wannon Water, Westernport Water and Western Water and
- Melbourne Water — the supplier of bulk water and sewerage services to the metropolitan retailers (and a number of other regional urban water businesses).[1]

It is part of a series of annual reports comparing the monopoly services provided by companies operating in the Victorian water industry, the Victorian electricity industry, and the Victorian gas industry. Generally, these reports examine the quality and reliability of supply, affordability and customer service issues in these industries.

The report covers the following key areas in relation to performance reporting: affordability, customer responsiveness and service, network reliability and efficiency, drinking water quality, environmental performance, delivery of major projects and the results of regulatory audits.

The information provided allows judgements to be made about comparative service performance. It provides incentives for businesses to improve their performance relative to that of other businesses and also to improve their own performance over time. The report also provides information to customers about the services they are receiving.

[1] Note that as a bulk supplier of water and sewerage services, not all measures reported on in this report are applicable to Melbourne Water.

Despite the continuing dry conditions the performance outcomes for 2008-09 show that customers receive a relatively high level of service with most businesses maintaining or improving services from the previous year. Key performance issues were:

Affordability in 2008-09

In 2008-09 average household bills for water and sewerage services ranged from $520 to $881.

- The lowest average water bills were reported by the metropolitan businesses, with the lowest being South East Water ($520) of the regional authorities Goulburn Valley Water ($600) was lowest.
- The highest average water bills were Central Highlands Water ($881), GWMWater ($852) and Gippsland Water ($847).

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

In 2008-09 average household consumption ranged from 76 kL for Westernport Water's region with a large seasonal population, to 381 kL in Lower Murray Water's region in the north west of the State. State-wide, average household consumption reduced from 159 kL in 2007-08 to 157 kL in 2008-09.

Generally, average household consumption levels in 2008-09 are higher in regional Victoria, with 184 kL per household, than metropolitan Melbourne where average household consumption was 147 kL.

In 2008-09, a total of 3 033 domestic customers (including 591 domestic customers on concession) and 64 non-domestic customers had their water supply restricted for non-payment of water bills. Goulburn Valley Water had the highest proportion of domestic restrictions of any business with 1.78 per 100 customers. City West Water did not restrict any domestic customers.

Legal action was taken against 1 042 customers across Victoria in 2008-09 for the non-payment of water bills, 1 511 less than 2007-08. The total comprised 939 domestic (711 non-concession customers and 228 concession customers) and 103 non-domestic customers.

Customer service and complaint handling in 2008-09

In 2008-09 businesses received a total of 12 774 complaints, representing a 14 per cent decline on the total complaints from 2007-08. This equates to a frequency of 0.56 complaints per 100 customers across the State.

North East Water, South East Water and Barwon Water recorded the lowest level of complaints with 0.18, 0.27 and 0.37 per 100 customers respectively.

The complaint types received by the water businesses in order of frequency were water quality (49.3 per cent), pressure (13.4 per cent), billing (10.4 per cent), sewer odour (6.2 per cent), affordability (3.8 per cent), water service reliability (2.1

per cent) and sewer service reliability (2.1 per cent), with the remaining 12.7 per cent of complaints not falling within these categories.

In 2008-09, the Energy and Water Ombudsman (Victoria) (EWOV) received 1 215 complaints in relation to the metropolitan and regional urban businesses.

Reliability in 2008-09

Overall reliability of a water supply network is measured by customer minutes off supply. In 2008-09 the average customer minutes off supply for water supply interruptions ranged from 8 (Coliban Water) to 226 minutes (Westernport Water) with an average of 31 minutes across all suppliers.

The average duration of unplanned water supply interruptions was 103 minutes in 2008-09. Average durations for businesses ranged from Lower Murray Water's 65 minutes to 145 minutes for City West Water. The percentage of customers experiencing an unplanned interruption ranged from 5.9 per cent for Coliban Water to 26.4 per cent for South Gippsland Water.

In 2008-09 the total rate of planned and unplanned water supply interruptions ranged from 10.1 to 68.2 per 100 kilometres of water main. Wannon Water had the lowest rate of water supply interruptions with 10.1 interruptions per 100 kilometres.

In 2008-09 the average rate of sewer blockages was 26.0 blockages per 100 kilometres of sewer main, compared to 25.8 blockages per 100 kilometres of sewer main in 2007-08, with performance ranging from 7.5 to 58.5 blockages per 100 kilometres.

Most businesses contained all (or almost all) sewer spills within 5 hours with the industry average performance 99.9 per cent. Nine businesses reported containing 100 per cent of sewer spills within five hours.

Drinking water quality in 2008-09

The microbiological quality of drinking water delivered to customers across Victoria remained high. Tests for *E. coli* bacteria (the most significant indicator) showed that during 2008-09, almost all customers received drinking water that met *E. coli* requirements as specified by the Department of Human Services (DHS).

Additionally, in 2008-09 almost all customers received drinking water that met the turbidity (which affects the water appearance) requirements with 15 of the 16 businesses reporting 100 per cent of customers receiving water that met turbidity requirements.

Environmental performance in 2008-09

2008-09 saw a 1.3 per cent reduction in the volume of sewage treated across Victoria's 197 sewage treatment plants from 406 056 ML to a total 400 968 ML. Over 97.7 per cent of sewage was treated to at least secondary level, with 12.5 per cent being treated to a tertiary standard. Most businesses reported close to 100 per cent compliance with discharge requirements specified by their Environment Protection Authority (EPA) licences.

Across Victoria, 30.6 per cent of effluent was recycled in 2008-09, an increase from 29.1 per cent the previous year. In regional Victoria, 35.9 per cent of effluent was recycled compared to 30.5 per cent in 2007-08. In metropolitan Melbourne, 28.9 per cent of effluent was recycled (including beneficial environmental flows for Ramsar listed wetlands at the Western Treatment Plant), a slight increase from 28.6 per cent in 2007-08.

Overall, 23.9 per cent of biosolids were reused in 2008-09. The highest rate of biosolids recycling was reported by Yarra Valley Water with 251 per cent reused followed by Western Water with 121 per cent reused, representing a reduction in stockpiled biosolids.

Total net CO_2 equivalent emissions generated by Victorian urban water businesses were 862 198 equivalent tonnes in 2008-09.

Data accuracy and regulatory audits

This is the fifth time that data from the regional urban businesses and Melbourne Water has been reported by the Commission and subject to external audits. Generally, regional businesses have improved systems to collect and report information leading to a high level of data quality.

1 INTRODUCTION

1.1 Background

The Essential Services 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 the 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 and
- inform the decision making processes of regulated businesses, regulatory agencies and Government.

The Commission reports on the performance of the energy retail businesses, as well as the Victorian water businesses. The experience from across these sectors is that public disclosure and reporting of information can be a strong driver of performance.

Since 1995, the Commission has reported annually on the performance of the three metropolitan water retailers. In March 2006, the Commission completed its first annual report published on the performance of all of the Victorian businesses that provide water, sewerage and related services to urban customers. This is the Commission's fifth annual report on the performance of all of the Victorian urban water businesses.

Specifically, performance reports now 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, GWMWater, Lower Murray Water, North East Water, South Gippsland Water, Wannon Water,[2] Westernport Water and Western Water and

- Melbourne Water — the supplier of bulk water and sewerage services to the metropolitan retailers (and a number of regional water businesses).[3]

This report covers the businesses' performance over the 2008-09 financial year across a number of key performance indicators. The range of indicators and definitions reported against were developed in consultation with the businesses and a range of other stakeholders. The data provided by the businesses has been independently audited to provide assurance that it is accurate and reliable. The businesses have also been provided with an opportunity to comment on the reasons for their performance.

1.2 The scope of this report

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

- **affordability** — including the size of household bills, consumption levels, the number of restrictions and legal actions for non-payment of bills, average debt levels at which restrictions and legal actions were applied, the availability of instalment payments and the number of hardship grant applications and approvals
- **customer responsiveness and service** — including customer complaints, call centre performance and timeliness of information statements
- **network reliability and efficiency** — including frequency, duration, responsiveness to and rectification of water supply interruptions, sewer blockages and spills as well as levels of leakage and losses from water supply systems
- **water quality** — including drinking water quality and water quality complaints
- **conservation and the environment** — including compliance with Environment Protection Authority (EPA) discharge licences at sewage treatment plants, water consumption, the level of reuse and recycling of effluent and biosolids and the level of greenhouse gas emissions and
- **historical performance** — including comparisons for all indicators and businesses with last year's data.

This report does not include information on the rural water businesses that supply irrigation, drainage, diversions and storage operator and bulk water services.[4] The Commission has separate performance indicators and reporting framework to apply to these businesses.

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2 On July 1 2005, Wannon Water was formed by a merger of Glenelg Water, Portland Coast Water and South West Water.

3 Note that as a bulk supplier of water and sewerage services, not all measures reported on in this report are applicable to Melbourne Water.

4 Note that this report does cover the urban aspects of those businesses that provide both rural and urban services.

1.3 The Commission's role in regulating service standards

This report includes performance measures related to a number of key areas including conservation, the environment and water quality. However, it is important to note that the Commission is not responsible for regulating or driving performance in all of these areas. For example, the Environment Protection Authority is responsible for regulation of environmental standards and the Department of Human Services is responsible for drinking water quality standards.

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

- a Customer Service 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 non-payment, quality of supply, reliability of supply, disconnection, meters, works and maintenance, information and administrative arrangements for guaranteed service levels
- flexibility in this regulatory period 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 for 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 and
- 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 Charters must cover certain minimum information requirements set by the Customer Service Code, and outline the businesses' approved service standards.

The Commission is responsible for monitoring and enforcing compliance with the obligations set out in the Customer Service Code. It does this by auditing compliance with the regulatory obligations on a regular basis and by responding to and following up on issues or concerns raised by customers or other stakeholders about compliance matters.

1.4 Information sources

This report is based on two principal sources of information including:

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

1.5 Performance indicator review

The Commission is planning to conduct a review of the performance indicators and their definitions in the near future. The Commission considers sufficient time has elapsed since the release of the original Water Performance Reporting Framework and performance indicators in July 2004, for a review to be of value.

One aspect to be included in the review will be the inclusion of financial indicators in performance reporting. These indicators may include:

- revenue
- costs (both operating and capital)
- value of regulatory assets and
- financial viability indicators.

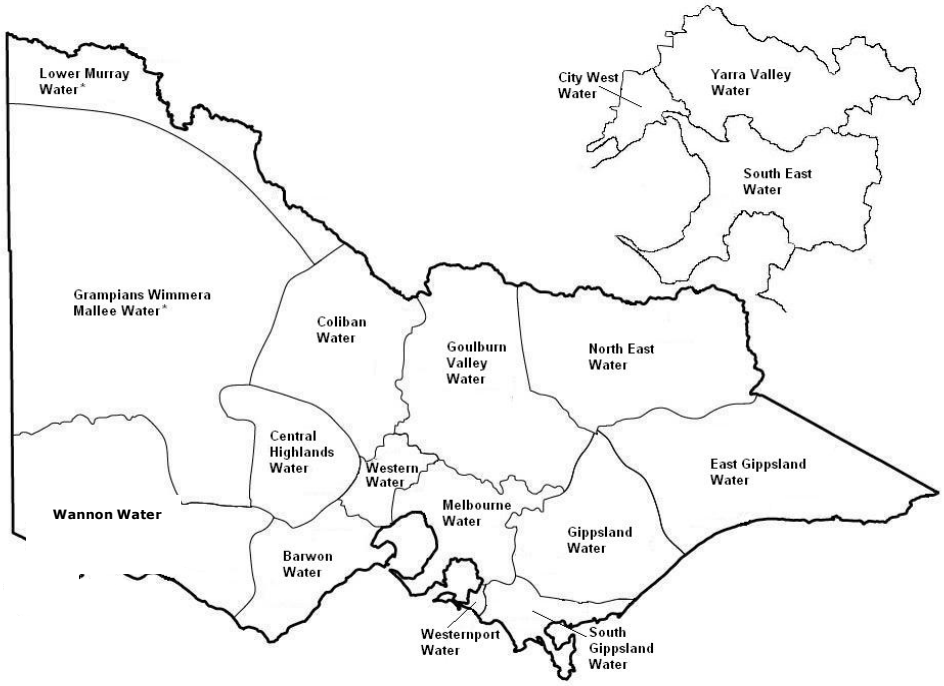
2 STRUCTURE OF THE WATER INDUSTRY

The Victorian water businesses are diverse in terms of size, the services they provide and the environments in which they operate. The Commission is required to take this diversity into account in 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, GWMWater, Lower Murray Water, North East Water, South Gippsland Water, Wannon Water, Westernport Water, Western Water, and
- the rural water sector comprising Goulburn Murray Water and Southern Rural Water. GWMWater and Lower Murray Water provide urban water services in addition to rural water services.

Figure 1 — Victorian urban water industry 2008-09



* Urban service area for Lower Murray Water and GWMWater

2.1 Metropolitan businesses

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

- harvesting, storage and treatment of raw water supplies
- transmission of bulk water supplies
- the operation of the bulk sewerage service and treatment of the majority of all sewage and
- 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 1.6 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 complaints. The retailers also bill metropolitan customers for drainage services on behalf of Melbourne Water and parks charges for Parks Victoria.
- providing trade waste services to commercial and industrial customers.

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

Table 1 Metropolitan water businesses – overview

	Water customers	*Sewerage customers*	*Length of water main (km)*	*Length of sewer main (km)*
City West	345 081	341 590	4 318	3 804
South East	637 778	603 418	8 668	8 153
Yarra Valley	670 353	619 543	9 147	8 792
Melbourne Water	Not applicable	Not applicable	1 208	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. Regional urban water businesses are statutory authorities with powers and functions derived from the *Water Act 1989*.

Unlike the metropolitan sector, these businesses are generally vertically integrated. The services they provide may include:

- harvesting water and operating and managing headworks (although some regional urban businesses purchase water from rural water businesses)
- treating water
- distributing water to households and industrial customers
- collecting, treating and disposing of sewage and further treating sewage for recycling and reuse purposes and
- a range of retail customer service functions, including meter reading, billing and payment, and handling call centre enquiries and complaints.

Table 2 Regional water businesses – overview

	Water customers	*Sewerage customers*	*Length of water main (km)*	*Length of sewer main (km)*
Barwon	132 907	119 221	3 545	2 272
Central Highlands	59 332	49 723	2 309	1 205
Coliban	65 988	56 850	2 151	1 748
East Gippsland	20 703	17 305	884	579
Gippsland	61 111	52 275	2 017	1 445
Goulburn Valley	52 621	44 571	1 734	1 189
GWMWater	30 824	24 794	1 221	635
Lower Murray	30 549	26 079	897	602
North East	44 686	38 980	1 615	1 071
South Gippsland	17 879	14 954	661	401
Wannon	39 463	33 180	1 734	869
Western	49 125	43 295	1 710	1 048
Westernport	14 517	13 111	374	308

2.3 Rural water businesses

There are four water businesses that provide rural water services to regionally based customers: GWMWater, Goulburn-Murray Water, Lower Murray Water and Southern Rural Water.[5] The rural water business service areas are defined geographically across the state. The services that they provide include:

- supplying water for irrigation, private diverters and stock and domestic water users
- providing irrigation drainage services
- supplying water to fulfil delivery and source bulk entitlements
- operating storage facilities and the infrastructure of irrigation districts

[5] Both GWMWater and Lower Murray Water also provide water, sewerage and related services to urban customers. The performance of the urban components of these businesses is included in this report. The Victorian Government in August 2008 appointed Lower Murray Water (LMW) to take over First Mildura Irrigation Trust (FMIT).

- constructing and maintaining delivery and irrigation drainage services
- licensing groundwater and surface water extraction and
- dealing with customer issues such as complaints, billing and payment collection.

The performance of the rural water businesses is not included in the scope of this report. The Commission has developed a performance reporting framework that will apply to rural water businesses.

3 AFFORDABILITY

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
- a customer's income and 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 State Government and
- whether businesses use restrictions for non-payment or take legal action against customers who are experiencing payment difficulties.

The Commission is responsible for approving water, sewerage, rural water and other prescribed prices to apply for the three metropolitan retail businesses, the regional urban water businesses, as well as the rural water businesses operating in Victoria. The first urban water price review undertaken by the Commission was completed in 2005 and approved prices applied from 1 July 2005 until June 2008. The first rural water price review was completed in June 2006, and approved prices applied from 1 July 2006 until 30 June 2008.

In June 2008 the Commission approved prices for regional and rural businesses for a five year regulatory period from 2008-09 to 2012-13. Prices for 2008-09 for the three metropolitan retailers and Melbourne Water were determined by the Minister for Water, with the Commission approving prices in June 2009 for the remaining four years of the regulatory period from 2009-10 to 2012-13.

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

The Commission's Customer Service Code includes specified standards and conditions for payments, collections and actions for non-payment, with which the Victorian urban water businesses must comply.

This section reports the:

- impact of price changes on households between 1 July 2008 and 30 June 2009
- number of customers on instalment payment plans
- number of customers receiving government assistance through concession payments and the Utility Relief Grants Scheme operated by the State Government
- number of restrictions and legal actions for non-payment and the average debt levels at the time such action is taken and
- number of customers applying to water businesses for hardship grants and the number of assistance grants awarded by each business.

3.2 Prices and charges

Analysis of water price movements provides an important perspective on trends in the affordability of water and sewerage services. Increasingly, customers are being given greater control over the size of their water bill through pricing structures that collect more revenue from water (and sometimes sewage) usage charges.

3.2.1 Price impacts on household customers

In June 2008, the Commission approved average annual real price increases over the five year regulatory period ranging between 4.3 per cent and 14.9 per cent across the regional urban water businesses. Based on the Minister of Water's expectation that average water bills would not double in real terms over the five year period to July 2013, the Commission approved an interim uniform increase of 14.8 per cent for metropolitan retail businesses and Melbourne Water for 2008-09. In June 2009 the Commission approved an increase for average annual real price increases for metropolitan businesses of between 12.2 and 14.7 per cent for the four remaining years of the regulatory period.

In its review of Water Plans for the regulatory period finishing in June 2013, the Commission was required to assess the businesses' pricing proposals against the principles set out in the *Water Industry Regulatory Order 2003* (WIRO). Specifically, it was required to ensure (among other things) that the prices would:

- enable businesses to earn a sustainable revenue stream that does not reflect monopoly profits or inefficient expenditure
- allow businesses to recover operational costs, the costs of renewing existing assets and to earn a return on existing and any new assets
- provide incentives for the sustainable use of water
- consider the interests of customers, including low income and vulnerable customers and
- be readily understandable by 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. Not all businesses have a usage based charge for sewerage. Usage based charges provide households with the capacity to influence their total bill by reducing water

consumption. To further encourage customers to reduce their discretionary level of water use, some businesses use an 'inclining block tariff structure' for water, where the usage price rises with the level of consumption.

The water businesses charging an inclining block tariff structure in 2008-09 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. All other urban water service providers have flat variable water usage charges.

3.3 Average household consumption

Greater emphasis 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 more recently the widespread introduction of water restrictions as a result of drought conditions and the need to conserve water.

Average household consumption across Victoria fell from 159 kL in 2007-08 to 157 kL in 2008-09. Generally, average household consumption levels in 2008-09 are higher in regional Victoria 184 kL per household (up from 175 kL in 2007-08) than metropolitan Melbourne where average household consumption was 147 kL (down from 153 kL).

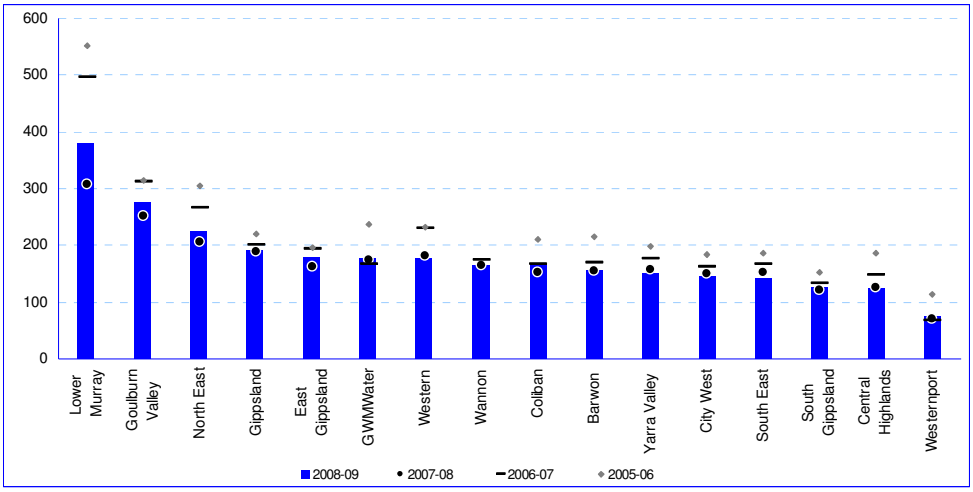
The average household consumption ranged from 76 kL for Westernport Water's region with a large seasonal population, to 381 kL in Lower Murray Water's region in the north west of the State (figure 2). South East Water's customers have the lowest average consumption in Melbourne (143 kL).

Four businesses, Goulburn Valley Water, Lower Murray Water, North East Water and East Gippsland Water all saw average household consumption increase from 2007-08 levels by 10 per cent or greater.

During 2007-08 Lower Murray Water customers were subject to water restrictions that did not allow the watering of lawns. During 2008-09 water restrictions were lifted so that limited watering of lawns was permitted during specified days and hours.

North East Water's average household consumption recovered due to the relaxation of water restrictions from stage 4 to stage 2 in the towns supplied from the Murray system. North East Water also observed a significant change in customer behaviour, which resulted in lower than expected consumption levels, even since restrictions have been relaxed.

Figure 2 **Average household consumption**
(kL per household)



3.4 Average household bills

The average household bills for water and sewerage services shown in figure 3 have been calculated using the average consumption shown in figure 2 and include both the fixed and variable water and sewerage charges.[6] In regions with multiple pricing zones, the prices in the largest town have been used to calculate the average household bill for the business.

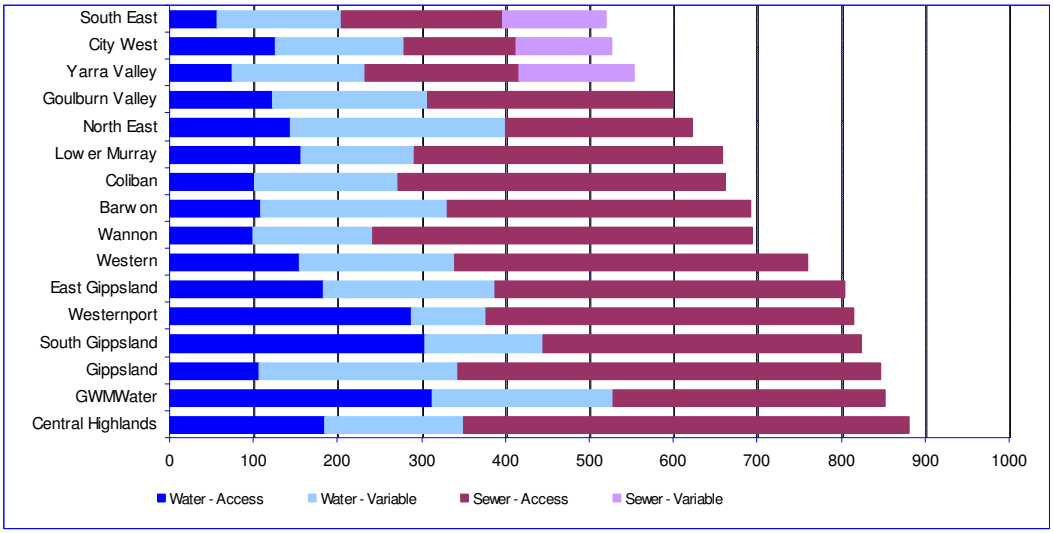
Overall the average household bill in 2008-09 was lower than 2007-08 in real terms, a result of generally lower consumption through restrictions and water conservation. The average household bill ranged from $520 to $881, with:

- the lowest average water bills were reported by the metropolitan businesses, with the lowest being South East Water ($520). Of the regional authorities, Goulburn Valley Water ($600) was lowest.
- the highest average water bills were Central Highlands Water ($881), GWMWater ($852) and Gippsland Water ($847).

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

6 In addition, metropolitan customers are also billed drainage charges on behalf of Melbourne Water, and parks charges on behalf of the Minister for Water, which are based on the rated value of the property.

Figure 3 Average household bills, 2008-09
($, nominal)



Note: Where businesses have multiple pricing zones, the average household bill is calculated using the prices in the largest town. The average household bill for GWMWater is based on bills in Horsham, South Gippsland Water's on Wonthaggi, Western Water's is based on Melton/Sunbury, Central Highlands Water's on Ballarat, Wannon Water's on Warrnambool, North East Water's on Wodonga, East Gippsland Water's on Bairnsdale, Coliban Water's on Bendigo, and Goulburn Valley Water's on Shepparton.

3.5 Payment difficulties

The urban water businesses are required to 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 redirection of the bill to another person for payment
- offering to extend the due date for some or all of an amount owed
- appropriately referring customers to government funded assistance programs (including the Utility Relief Grant Scheme) or to an independent financial counsellor
- observing minimum periods of notice before applying supply restrictions or pursuing legal action to recover outstanding debts and
- not restricting water supply of a customer or pursuing legal action unless having first taken additional steps to secure payment, including making a reasonable attempt to contact the person, offering a payment arrangement and resolving any dispute over the outstanding amount.

The Commission is currently undertaking a review of the Customer Service Code with a view to strengthening its clauses related to payment difficulties. This includes the introduction of a hardship guaranteed service level (GSL) that was flagged during the 2009 price review for Melbourne metropolitan water businesses. It is expected that the implementation of the hardship GSL will be undertaken during 2010-11.

The Commission also plans to undertake a study into the experience customers with payment difficulties have had accessing the hardship provisions within the customer service code.

3.5.1 Customers with instalment plans

Instalment plans help to address affordability issues by providing customers with flexibility to manage their bill payments. The availability of flexible payment options is important to domestic and non-domestic customers who are experiencing financial difficulties. As part of the Commission's performance reporting framework, the businesses are required to report the number of instalment plans entered into by customers.

In 2008-09, the use of instalment plans for domestic customers ranged from 1.4 per 100 customers for North East Water to 12.1 per 100 customers for Coliban Water (figure 4).

East Gippsland Water's rate of instalment plans increased substantially from 1.5 per 100 customers in 2007-08 to 4.4 per 100 customers in 2008-09. Westernport Water's rate of instalment plans fell from 9.4 per 100 customers 2007-08 to 2.8 per 100 customers 2008-09.

East Gippsland Water initiated a new customer information system which improved the capabilities for reporting customer instalments, increasing the rate of instalment plans over the period.

Westernport Water notes that, although there was a substantial decrease in the rate of instalment plans, their 2008-09 results represent a more typical year and that they had an abnormal year for instalment plan requests in 2007-08, receiving almost 600 over a 3-month period.

The range of non-domestic customers using instalment plans was smaller than for domestic customers. Coliban Water (6.0 per 100 customers), Wannon Water (5.8) and Westernport Water (5.0) use of instalment plans was notably higher than other water businesses. North East Water reported no use of instalment plans for non-domestic customers in 2008-09.

East Gippsland Water recorded the largest increase in the number of instalment plans, rising from no recorded instalment plans in 2007-08 to 2.8 per 100 non-domestic customers in 2008-09. Yarra Valley Water recorded the largest decrease from 4.9 per 100 non-domestic customers in 2007-08 to 2.3 per 100 non-domestic customers in 2008-09.

Coliban Water stated that they provide assistance for domestic and non-domestic customers experiencing financial hardship by actively encouraging the use of instalment plans. The percentage of non-domestic customers accessing instalment plans is consistent with previous years.

Wannon Water offered instalment plans to customers with overdue accounts, and Westernport Water to tourism and hospitality businesses in its region who were adversely affected throughout the 2008-09 year due to the financial climate.

North East Water considers its proactive strategy of consulting with customers on payment issues as soon as it becomes apparent that payment difficulties may arise, results in less of a need for instalment plans.

Figure 4 Domestic customers with instalment plans

(per 100 customers)

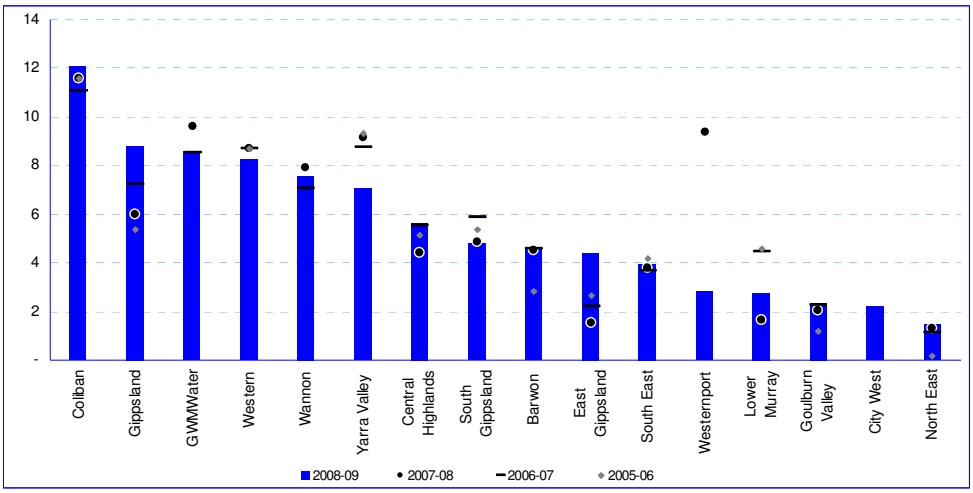
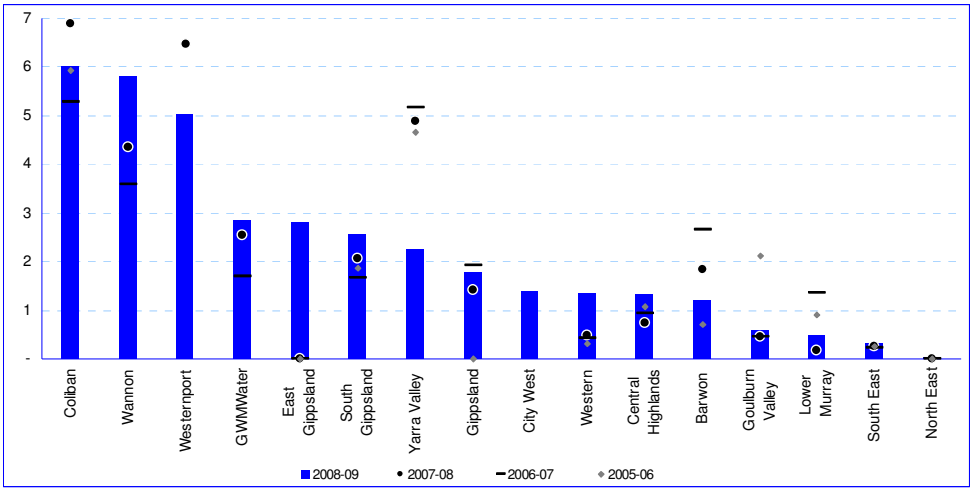


Figure 5 **Non-domestic customers with instalment plans**
(per 100 customers)



Note: North East Water did not have non-domestic customers on instalment plans in 2008-09.

3.5.2 Utility Relief Grants Scheme

The Department of Human Services administers the Utility Relief Grants Scheme (URGS), which provides one-off financial contributions towards a customer's bill where payment difficulties are experienced. The URGS is generally used when the customer experiences a short-term financial crisis. This differs from assistance provided by the water businesses to customers who experience ongoing financial hardship through their hardship programs (see section 3.7 for further discussion).

Central Highlands Water and Wannon Water had the highest rates of the URGS uptake by customers for the period with 2.6 and 2.4 per 1000 customers respectively.

The average value of grants was relatively consistent, ranging from $199 for North East Water to $445 for Westernport Water. Yarra Valley Water had the highest number of customers given grants, with a total of $116 402 paid between the 384 customers.

Table 3 Average amount of Utility Relief Grants 2008-09 ($)

	Approved	*Grants paid ($)*	*Average amount grant paid ($)*	*Grants per 1000 customers*
City West	218	82 260	377	0.7
South East	348	115 792	333	0.6
Yarra Valley	384	116 402	303	0.6
Barwon	88	25 782	293	0.7
Central Highlands	138	47 012	341	2.6
Coliban	26	8 310	320	0.4
East Gippsland	25	8 798	352	1.4
Gippsland	91	34 487	379	1.6
Goulburn Valley	53	15 574	294	1.1
GWMWater	17	6 029	355	0.7
Lower Murray	14	4 483	320	0.5
North East	28	5 564	199	0.7
South Gippsland	23	9 028	393	1.6
Wannon	78	27 719	355	2.4
Western	88	30 823	350	1.9
Westernport	15	6 670	445	1.1
Total	**1634**	**544 733**	**333**	**0.8**

3.5.3 Concessions

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

In 2008-09, the Government contributed a total of $105 million in concession payments toward water bills (table 4). This was an increase of $22 million compared to 2007-08.

Table 4 Concession payments 2008-09

Water business	*Payments ($)*
City West	14 567 656
South East	27 187 477
Yarra Valley	33 256 185
Barwon	6 561 119
Central Highlands	3 161 382
Coliban	3 614 643
East Gippsland	924 888
Gippsland	3 293 552
Goulburn Valley	2 315 783
GWMWater	1 762 774
Lower Murray	1 376 177
North East	2 115 093
South Gippsland	810 471
Wannon	1 977 024
Western	1 906 678
Westernport	334 906
Total	105 165 808

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 and that a series of steps be undertaken before restriction can occur. It also limits the scope for businesses to restrict customers where the outstanding amount is less than $120 (or the customer has failed to pay consecutive bills in full over a 12 month period). They must also not restrict or commence legal action if:

- the customer is eligible and has lodged an application for a government funded concession and the application is outstanding
- the customer has made an application under the URGS and the application is outstanding
- the customer is a tenant and the amount unpaid is owed by the landlord or the tenant has a claim against the landlord in respect of a water bill pending at the Victorian Civil and Administrative Tribunal or
- the amount in dispute is subject to an unresolved complaint procedure in accordance with a water business's complaints policy.[7]

[7] Essential Services Commission, 2004, Customer Service Code, clause 7.2

In considering whether it is appropriate to restrict a customer's supply or take legal action it is important to consider:

- whether there are more effective means of encouraging prompt payment of bills and recovery of outstanding debts
- the costs and benefits of applying such measures (including whether the cost of the action taken to recover the debt is greater than the outstanding debt. For example, when legal actions are used to recover a small debt the additional cost of a summons may be greater than the debt owed to the business, thus further exacerbating the customer's payment difficulties) and
- the individual circumstances of the customer and their capacity to pay the debt or their willingness to enter into alternative payment arrangements such as instalments.

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

3.6.1 Restrictions applied for non-payment of bill

In addition to reporting data on the number of customers restricted for non-payment of their water bills, the businesses have reported restrictions data disaggregated on a concession/non-concession basis for domestic customers and the average level of outstanding debt for which restrictions have been applied.

In 2008-09, a total of 3 033 domestic customers (including 591 domestic customers on concession) and 64 non-domestic customers had their water supply restricted for non-payment of water bills. This was an increase of 366 customers from 2007-08 which can be largely attributed to the increases in restrictions for non-payment of bills amongst South East Water, Goulburn Valley Water and Yarra Valley Water customers.

Goulburn Valley Water had the highest proportion of domestic and non-domestic restrictions of any business, with 1.78 per 100 domestic customers (figure 6) and 0.64 per 100 non-domestic customers (figure 7).

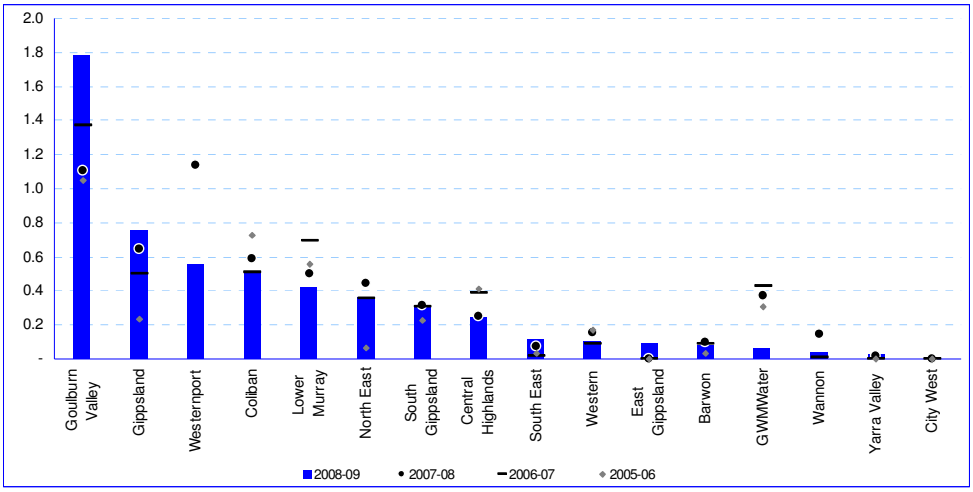
City West Water did not restrict any domestic customers for non-payment in 2008-09.

Goulburn Valley Water stated that it uses restrictions only after careful consideration and in accordance with requirements set out in the Customer Service Code as a cost effective method for both the customer and business to control debt levels. It found that most customers enter into communication, instalment plans or seek hardship grants upon having their water restricted. The number of restrictions has increased partly due to the fact Goulburn Valley Water now has two fully trained contract restrictors, when previously it only had one.

South East Water increased the number of domestic water restrictions last year in an attempt to engage with long term debtors after many attempts to engage had failed. This enabled South East Water to identify and assist customers experiencing financial hardship, and facilitate the development of assistance solutions for non-payment of bill customers.

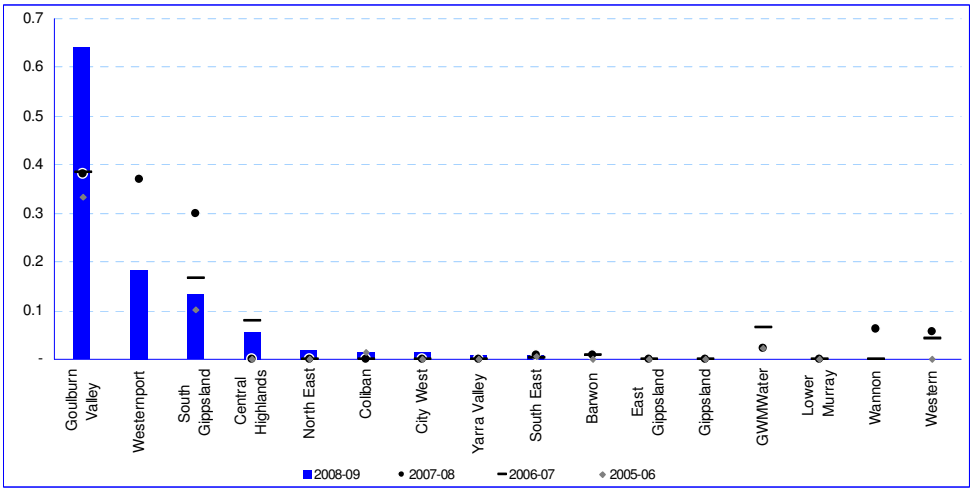
In terms of non-payment, City West Water states it endeavours to work with the customer through on-site visits and where necessary, provide customer assistance. In most circumstances this 'hands on' approach to working with customers has avoided the need to restrict a water supply.

Figure 6 Domestic restrictions for non-payment of bills
(per 100 customers)



Note: City West Water did not restrict any domestic customers in 2008-09.

Figure 7 Non-domestic restrictions for non-payment of bills
(per 100 customers)



Note: Barwon Water, East Gippsland Water, Gippsland Water, GWMWater, Lower Murray Water, Wannon Water and Western Water did not restrict any non-domestic customers in 2008-09.

3.6.2 Restriction duration (domestic)

As part of the Commission's performance reporting framework, businesses are required to identify how long customers who are restricted for non-payment remain on restrictions. Specifically, they are required to 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. Where a high proportion of customers remain on restrictions for long periods of time it 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 restored water supply within three days for between 45 per cent and 73 per cent of the restricted customers (figure 8). Two businesses reported rates of restoration substantially below this range, with Westernport Water reporting 16 per cent restored and GWMWater 24 per cent.

Westernport Water reported the highest rate of restrictions not being restored within 14 days with 92 per cent (figure 9). Wannon Water reported a low rate with 7 per cent of restrictions not being restored within 14 days, this was a reduction from 35 per cent in 2007-08.

Westernport Water explained that the majority of their restricted customers are non-permanent residents who infrequently visit their properties and only attend to the non-payment of the debt and removal of restrictor when they do visit the property.

GWMWater attributes the higher percentage of restricted properties to the fact that many of the properties are vacant or customers are away.

Wannon Water explained the large decrease as an outcome of the very low number of restrictors fitted in both years. In 2008-09 Wannon Water had 1 out of 14 restrictors (7 per cent) still on at 14 days. In 2007-08 the figure was 18 out of 53 (35 per cent).

Figure 8 **Restrictions restored within three days**
(per cent, domestic only)

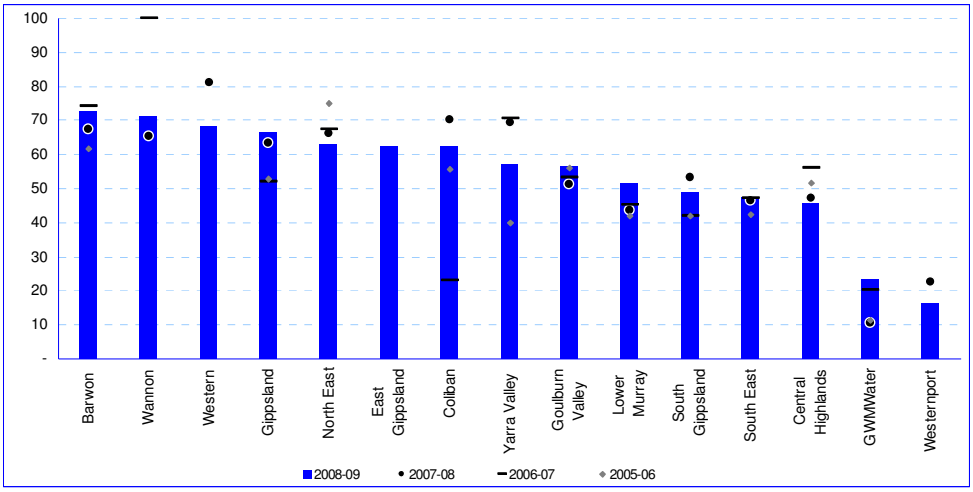
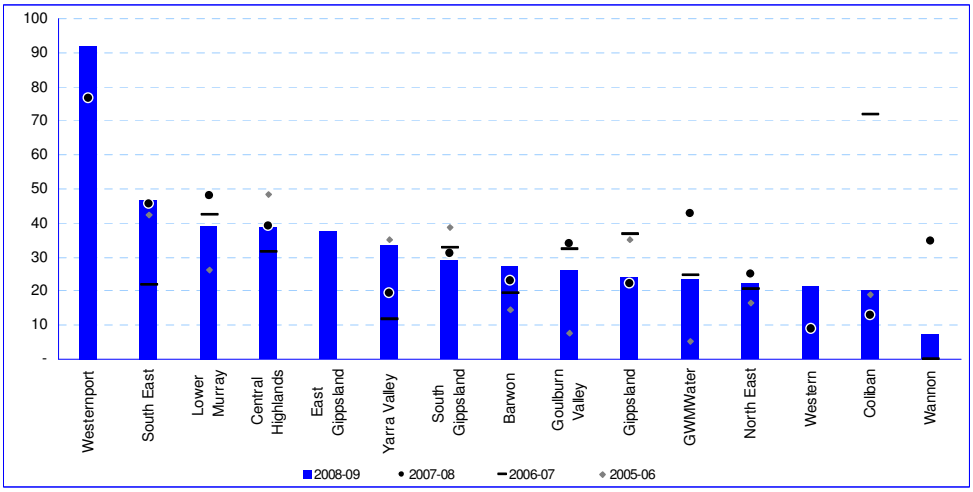


Figure 9 **Restrictions over 14 days**
(per cent, domestic only)



Note: City West Water did not restrict any domestic customers in 2008-09.

3.6.3 Legal actions for non-payment of bills

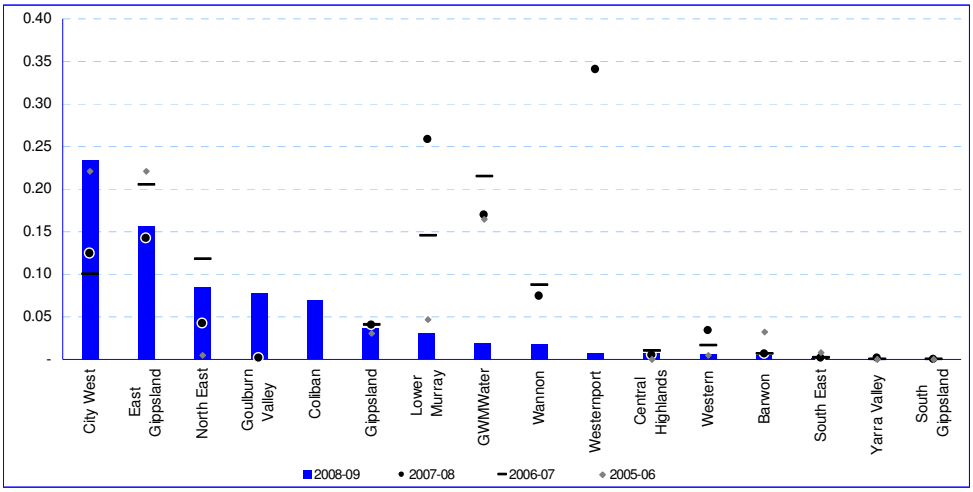
Overall, legal action was taken against 1 042 customers across Victoria in 2008-09 for the non-payment of water bills — 1511 less than the previous year and 3 097 less than the number of customers restricted for non-payment. In total 939 domestic (711 non-concession customers and 228 concession customers) and 103 non-domestic customers had legal action taken against them.

Coliban Water recorded a significant decrease in the rate of legal actions for non-payment for both domestic (figure 10) and non-domestic customers (figure 11). For

domestic customers the rate of legal action decreased from 2.42 per 100 customers in 2007-08 to 0.07 per 100 customers in 2008-09. Before 2007-08 Coliban's rate of legal action ranged from 1.80 to 2.55 per 100 customers. For non-domestic customers, Coliban's reported rate of legal actions fell from 5.92 per 100 customers in 2007-08 to 0.17 per 100 customers in 2008-09.

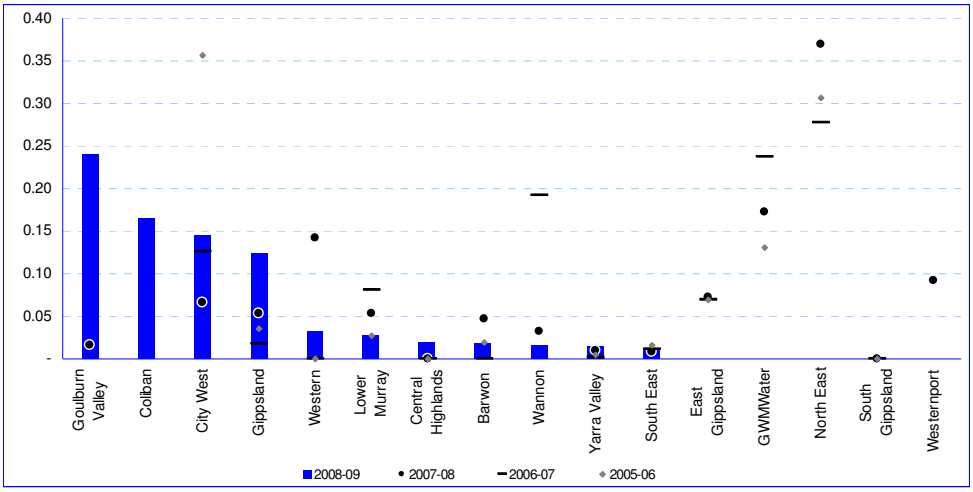
Coliban Water explained that it had previously reported data that was inconsistent with the Commission's definitions. The data reported for 2008-09 has been generated using the correct definitions of legal action, and this has resulted in a lower reported figure.

Figure 10 Domestic legal actions
(per 100 customers)



Note: Coliban Water's 2007-08 domestic legal actions not shown on graph.

Figure 11 Non-domestic legal actions
(per 100 customers)



Note: East Gippsland, GWMWater, North East Water, South Gippsland Water and Westernport Water did not take legal action against any non-domestic customers for non-payment in 2008-09.

3.6.4 Average debt levels for restriction and legal action

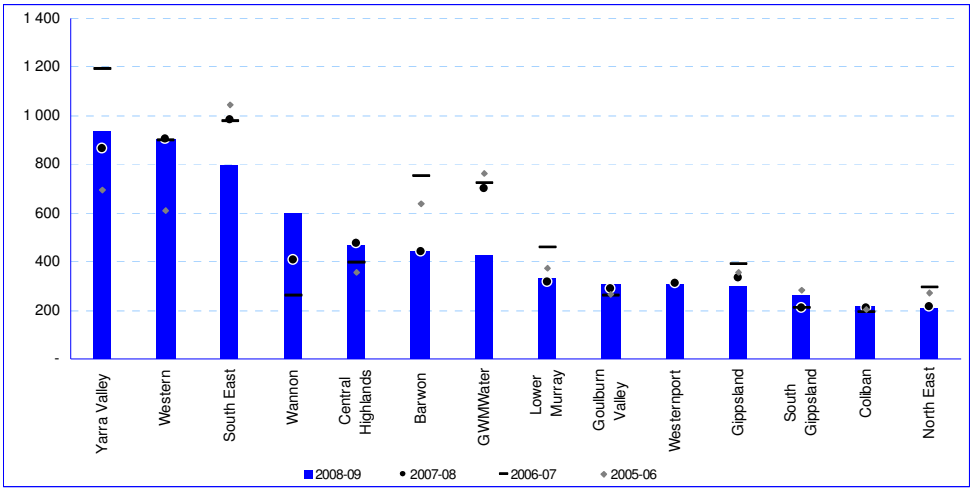
The businesses are required to report the average amount owing at the time that they apply supply restrictions or take legal action for unpaid water bills. As this is an average measure, it is important to recognise that action may have been taken against some customers for amounts that are greater than or less than the average. The Customer Service Code sets the minimum level of debt before restrictions or legal action can be applied at $120.

In 2008-09 there was a general increase in the average value of debt being restricted (figure 12) or subject to legal action (figure 13) compared to 2007-08.

The average debt at the time of restricting water supply ranges from $207 for North East Water to $938 for Yarra Valley Water. GWMWater reported average debt at time of restriction of $422 in 2008-09, representing a fall of $276 from $699 in 2007-08. Wannon Water recorded the greatest increase, with average debt increasing from $407 in 2007-08 to $600 in 2008-09, an increase of $193.

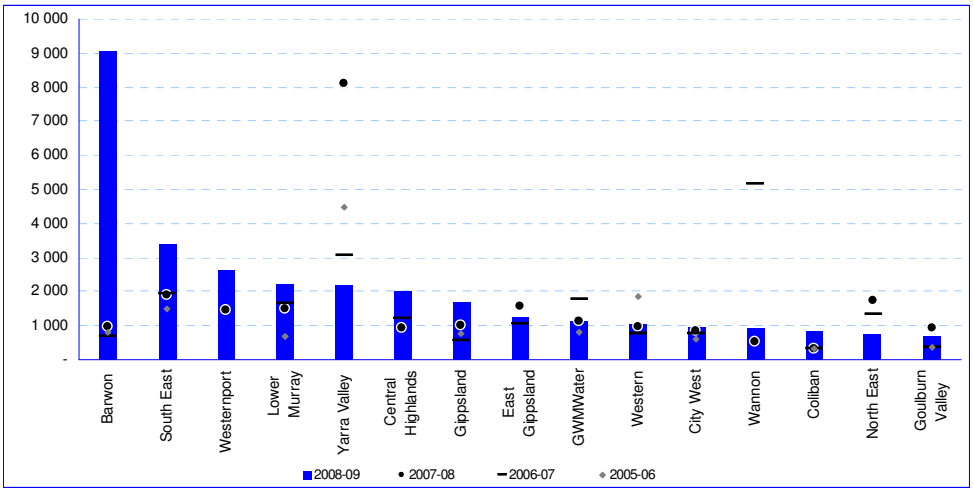
The average debt at the time of legal action being taken ranged from $688 for Goulburn Valley Water to $9 090 for Barwon Water. In 2007-08 Barwon Water's average debt was substantially lower at $954. Barwon Water stated that a single exceptionally high debt resulted in the significant increase in average debt level. Yarra Valley Water reported a significant fall from $8 102 in 2007-08 to $2 196 in 2008-09 in the average value of debt. Yarra Valley noted in the 2007-08 performance report that a single large legal case had increased its average debt level in that year.

Figure 12 Average debt level — restrictions
($, nominal)



Note: City West Water did not take legal action against any customers for non-payment in 2008-09. East Gippsland Water did not provide reliable data.

Figure 13 Average debt level — legal action
($, nominal)



Note: South Gippsland Water did not take legal action against any customers for non-payment in 2008-09.

3.7 Hardship grants (domestic)

The Customer Service Code requires all water businesses serving urban customers to have policies in place as of 1 July 2005 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 water business according to an agreed flexible payment plan or other payment schedule and
- offer information about the water business's dispute resolution policy and the Energy and Water Ombudsman (Victoria) or other relevant dispute resolution forum.

Each business is required to report the number of hardship applications made and the number of assistance grants awarded under its hardship policy (figure 14). The data provides an indication as to effectiveness of a water business's hardship policies.

In total, water businesses approved 10 931 hardship grants in 2008-09 up slightly from 10 908 in the previous year. Yarra Valley Water again had the most extensive hardship scheme accounting for 90 per cent of the total number of grants approved at an average value of $61.

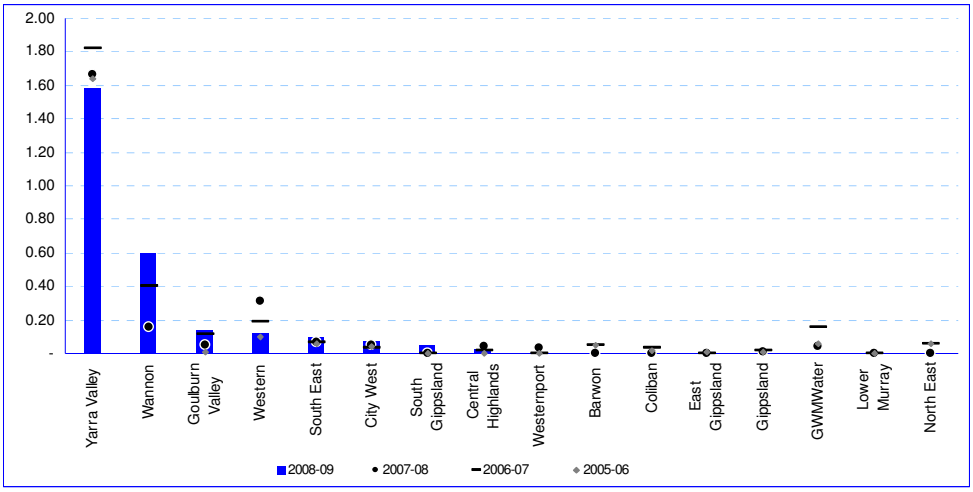
Wannon Water reported the highest average value of hardship grants (figure 15) at $631 and the largest increase from the 2007-08 figure of $271.

Yarra Valley Water stated it has a range of programs to assist customers experiencing hardship including opportunities for customers to proactively reduce their outstanding debt.

The increase in the average value of hardship grants at Wannon Water is attributed to the implementation of a program to proactively contact customers with accumulated payment arrears.

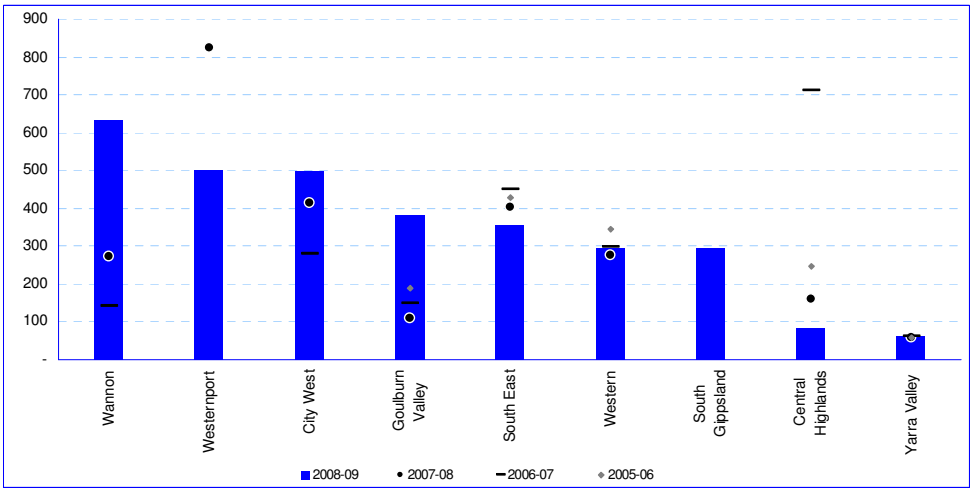
Six businesses, Barwon Water, Coliban Water, East Gippsland Water, GWMWater, Lower Murray Water and North East Water did not provide any hardship grants to customers.

Figure 14 Hardship grants and applications
(per 100 customers)



Note: Barwon Water, Coliban Water, East Gippsland Water, GWMWater, Lower Murray Water and North East Water did not provide any hardship grants to customers in 2008-09.

Figure 15 Average value of hardship grants
($, nominal)



Note: Barwon Water, Coliban Water, East Gippsland Water, GWMWater, Lower Murray Water and North East Water did not provide any hardship grants to customers in 2008-09.

4 CUSTOMER RESPONSIVENESS AND SERVICE

4.1 Background

This chapter provides information on the water businesses' customer service and responsiveness performance. It covers the areas of call centre performance, customer complaints and timeliness of responding to property development applications and requests for information statements.

The Customer Service Code places a number of obligations on businesses regarding customer responsiveness and service, including requirements to have policies, practices and procedures for handling complaints and disputes from customers and to provide certain information to customers on request.

Water businesses are required to meet service standard targets approved during the 2008 water price review, which were generally based on average historical performance. The customer service related targets that businesses must achieve are for the percentage of calls answered within 30 seconds and the level of complaints to the Energy and Water Ombudsman (Victoria).

4.2 Call centre performance

Call centres provide an important link between water businesses and their customers. Under the Commission's performance reporting framework, call centre performance is measured in terms of the timeliness of operators to answer customer calls. Businesses are required to report performance for:

- the average time taken for calls to be connected to an operator and
- the percentage of calls connected to an operator within 30 seconds.

These measures are disaggregated between account enquiries and emergency contact numbers. In interpreting and comparing the businesses' performance against these indicators, it is important to note that a number of businesses do not have separate account and emergency lines and instead receive all calls through a single line. In these cases, businesses are required to record all calls against accounts, which can make direct comparisons between businesses difficult.

The Commission engages Customer Service Benchmarking Australia (CSBA) to monitor water businesses' call centre performance on an annual basis using a 'mystery caller' approach. The results of CSBA's review are outlined in section 4.2.3.

In 2008-09, Victoria's water businesses received a total of 2.15 million phone calls. For those businesses with separate account enquiries and emergency lines, 74.2 per cent of all calls were to their account enquiries line.

Coliban Water, East Gippsland Water, Lower Murray Water, South Gippsland Water, Wannon Water and Western Water are not able to report calls to their fault lines separately or do not maintain separate lines for account enquiries and emergency calls. East Gippsland Water answers all calls directly.

4.2.1 Time taken to connect to an operator

Customer satisfaction with water businesses depends on a number of factors, including the manner and product knowledge demonstrated by staff and their effectiveness in handling enquiries and complaints. Another important factor influencing customer satisfaction is the timeliness of call centres in connecting incoming calls to operators.

The time taken to connect to an operator depends on the nature of the phone system used by the business. Many businesses 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.

Wannon Water reported the lowest average time to connect for both account and fault lines in 2008-09 with 7 seconds (figure 16). As in 2007-08, City West Water reported the longest average connect, with the 64 seconds reported in 2008-09 a substantial decline from 94 seconds in 2007-08.

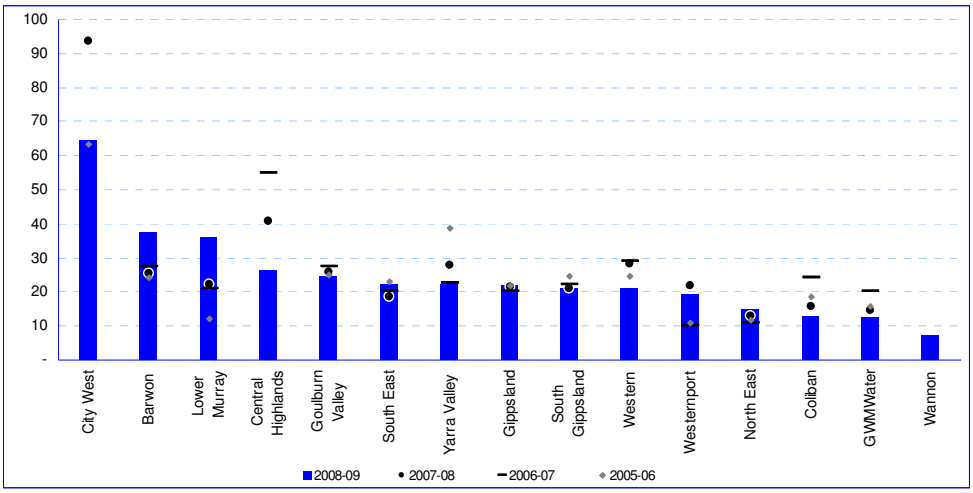
Of the 10 businesses with an emergency fault line, all reported connection times of 30 seconds or less, with the fastest connect time reported by North East Water with 7 seconds.

North East Water has steadily increased staff numbers in this area and considers that a key advantage of its approach is that a person, rather than an automated answering service, answers calls.

Wannon Water noted that a high priority is given to meeting the needs of its customers. Its customer relations team answers all external calls directly rather than via the use of an IVR. Further, the Customer Relations team has undergone specialised training to develop an excellent service culture.

City West Water use IVR and are of the view that the efficiencies gained remain worthwhile. City West Water noted that it was able to reduce the average connection time to an operator throughout last year by removing unnecessary words in the IVR main menu.

Figure 16 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.

4.2.2 Calls answered within 30 seconds

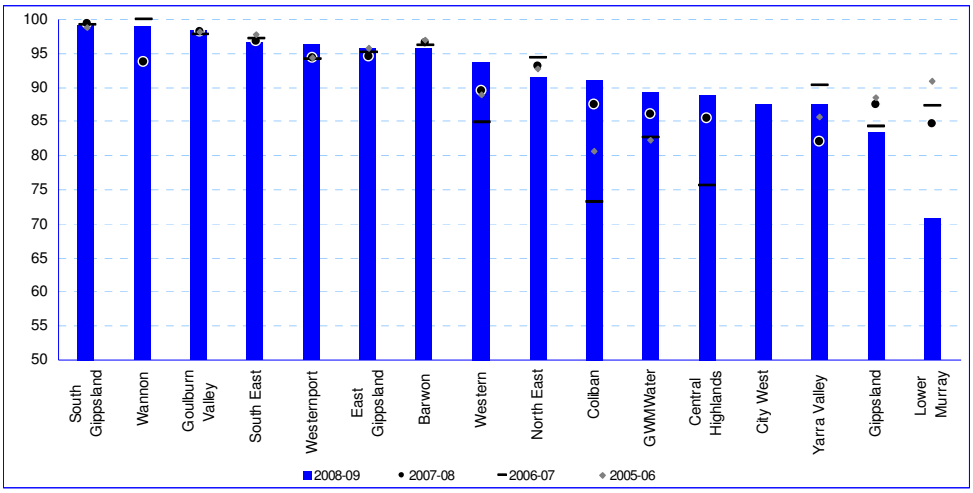
While the average time taken for calls to be connected to an operator measures the overall responsiveness of a business's call centre, it does not capture the frequency with which calls are answered promptly. The percentage of calls answered within 30 seconds is an important measure because it more accurately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

Ten businesses reported a percentage of calls answered within 30 seconds of greater than 90 percent (figure 17), with South Gippsland Water, Wannon Water and Goulburn Valley Water reporting 99 per cent.

Lower Murray Water (71 percent) had the lowest percentage of calls answered within 30 seconds, followed by Gippsland Water (83 percent). Lower Murray Water also recorded the largest decline in the percentage of calls answered within 30 seconds, falling from 85 per cent from the previous year.

In August 2008, Lower Murray Water merged with FMIT which resulted in an increase in the number of phone calls.

Figure 17 Calls answered within 30 seconds - account and fault lines
(seconds)



4.2.3 Call centre benchmarking

Customer Service Benchmarking Australia (CSBA) was commissioned to benchmark the water businesses' call centre performance in 2008-09 against Australian water and energy sector averages. CSBA assesses the performance of the businesses from calls to their account lines using the 'mystery caller' technique. In reporting to the Commission, CSBA discloses performance in terms of sector averages (metropolitan retail and regional urban) and only identifies individual businesses if they are among the top performers in a particular category. During 2008-09, CSBA made 1 259 calls to regional urban businesses and 286 calls to the metropolitan retailers. A summary of CSBA's findings is provided below.

Call centre connect times

The average connect time for the metropolitan water businesses was 59 seconds in 2008-09, improving significantly from 70 seconds in 2007-08. However, it remains above the 55 seconds achieved in 2006-07. South East Water was the best performing retailer, averaging 23 seconds per call over 2008-09 and leading the category in each of the four quarters.

Connect time for the regional water businesses was the best among all the sectors surveyed. Regional callers reached an agent in 29 seconds, a two seconds improvement on last year and significantly lower than their metropolitan counterparts, with average response times of 59 seconds. While it as an improvement on 2007-08 connect times, it is still below 28 seconds achieved in 2005-06 for the regional urban businesses. North East Water was the best performed regional urban business with a 10 second connect time. North East Water's performance outperformed Wannon Water, the best performed regional urban business for the previous three consecutive years.

Wannon Water and Coliban Water also achieved the highest quarterly results for this category at various stages in 2008-09.

The average connect time for the Australian water sector was 36 seconds (42 seconds in both 2007-08 and 2006-07), while the average response time for all utilities in Australia remained steady at 55 seconds (55 seconds in 2007-08 and 58 seconds in 2006-07).

Calls answered within 30 seconds

The metropolitan retailers answered 58 per cent of calls within 30 seconds in 2008-09, up from 25 per cent in 2007-08 and 30 per cent in 2006-07. South East Water was the best performed retailer answering 82 per cent of all calls within 30 seconds in 2008-09 and leading the category in each quarter.

The regional urban businesses also performed better than the metropolitan retailers in this category, answering 72 per cent of all calls within 30 seconds. This result compares with 58 per cent in 2007-08 and 61 per cent in 2006-07 for this sector. North East Water was the best performing regional urban water business, answering 98 per cent of calls within 30 seconds during the year. North East Water answered 100 per cent of all calls within 30 seconds in three of the four quarters in 2008-09. Strong quarterly performances were also reported by Wannon Water and Coliban Water at various stages in 2008-09.

The percentage of calls answered within 30 seconds for the Australian water sector was 66 per cent, up from 47 per cent in 2007-08 and 48 per cent in 2006-07.The percentage of calls answered within 30 seconds for the Australian utility sector was 52 per cent (33 per cent in both 2006-07 and 2007-08).

Greeting quality

CSBA measures greeting quality according to a greeting quality index[8]. Greeting quality has remained relatively constant over the four years to 2008-09. The metropolitan retailers achieved an overall greeting quality score of 90 per cent in 2008-09. This compares to scores of 90 per cent and 91 per cent in 2007-08 and 2006-07 respectively. City West Water achieved the best results with 93 per cent over the year, achieving the best quarterly results three times. Other strong performed retailers in this category include Yarra Valley Water and South East Water achieving the high quarterly results at various stages during the year.

The regional urban businesses achieved an overall greeting quality score of 88 per cent, unchanged from 2007-08 results. Gippsland Water was the best performed regional urban water business on greeting quality with a score of 91 per cent over the year and achieving the best quarterly results two times.

The overall greeting quality score for the Australian water sector was 89 per cent (89 per cent in 2007-08, 90 per cent in 2006-07). The overall greeting quality score

[8] The greeting quality index is based on a composite of the following elements: welcome salutation, giving the business name, giving the agent's name, making an offer to help the caller and sign off.

for the Australian utility sector was 89 per cent (90 per cent in 2007-08, 92 per cent in 2006-07).

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 73 per cent of the time in 2008-09, with results indicating a progressive decline since 2006-07, down from 77 per cent in 2007-08 and 82 per cent in 2006-07. Each of the three retailers achieved the best quarterly results for best practice agent manner at various stages in 2008-09.

The regional urban businesses also achieved best practice agent manner 75 per cent in 2008-09, with results declining modestly from 2007-08 (77 per cent) and returning to the same level as achieved in 2006-07. GWMWater was the best performed regional urban business for best practice agent manner in 2008-09 (87 per cent), achieving the best performance for the second consecutive year. Gippsland Water achieved the best quarterly results of the regional urban businesses in the October-December quarter (96 per cent).

The overall best practice agent manner score for the Australian water sector was 75 per cent, decreasing slightly from 76 per cent in 2007-08 and 72 per cent in 2006-07. The overall score for the Australian utility sector was also 75 per cent (76 per cent in 2007-08 and 2006-07).

Both sectors 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 achieved in 2007-08 and slightly down from 97 per cent in 2006-07. The regional urban businesses achieved a score of 95 per cent (95 per cent in 2007-08, 96 per cent in 2006-07). These results were comparable to 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 2008-09, call centre staff of the metropolitan retailers:

- fully probed the caller's needs 70 per cent of the time (compared to 70 per cent in 2007-08 and 74 per cent in 2006-07)
- demonstrated good product knowledge 86 per cent of the time (up from 82 per cent in 2007-08 and 89 per cent in 2006-07)
- provided a clear outcome to an enquiry 84 per cent of the time (up from 81 per cent in 2007-08 and 89 per cent in 2006-07)
- were courteous and helpful 91 per cent of the time (up from 90 per cent in 2007-08 and 95 per cent in 2006-07)

Yarra Valley Water and South East Water were the best performed in all enquiry handling skill categories and achieved best quarterly results in the majority of cases.

In 2008-09, call centre staff of the regional urban businesses:

- fully probed the caller's needs 71 per cent of the time (compared to 71 per cent in 2007-08 and 70 per cent in 2006-07)
- demonstrated good product knowledge 83 per cent of the time (up from 81 per cent in 2007-08 and 84 per cent in 2006-07)
- provided a clear outcome to an enquiry 82 per cent of the time (compared to 81 per cent in 2007-08 and 86 per cent in 2006-07)
- were courteous and helpful 90 per cent of the time (down from 91 per cent in 2007-08 and 92 per cent in 2006-07)

Central Highlands Water, Gippsland Water, Goulburn Valley Water and GWMWater were the best performed regional urban businesses for enquiry handling.

4.3 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 that need to be improved. 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) for further investigation.

4.3.1 Total number of complaints

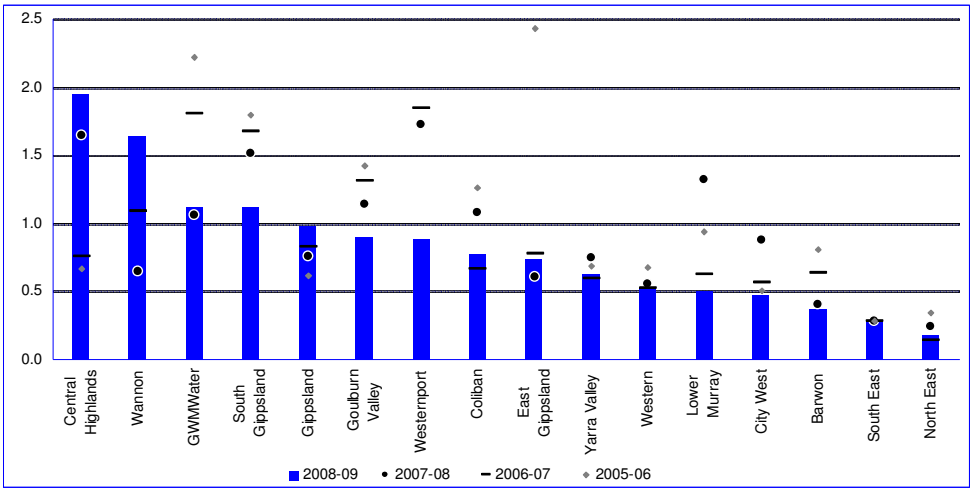
Under the performance reporting framework, the businesses are required to report the number of customer complaints for water quality, water supply reliability, sewerage service quality and reliability, affordability, billing, pressure, sewage odour and 'other' complaints. A complaint is registered if a customer registers dissatisfaction in a complaint category. Businesses are also required to provide information on the types of water quality complaints they received, namely complaints relating to colour, taste and odour, blue water and 'other' water quality complaints. Water quality complaints are discussed in more detail in section 6.4.

In 2008-09 businesses received a total of 12 774 complaints, representing a 14 per cent decline on the total complaints from 2007-08. This equates to a frequency of 0.56 complaints per 100 customers across the State.

North East Water, South East Water and Barwon Water remain the three water businesses that have reported the lowest number of complaints per 100 customers, with 0.18, 0.27 and 0.37 complaints respectively (figure 18). Central Highlands Water had the highest number of complaints per 100 customers with 1.94 complaints, followed by Wannon Water (1.65 complaints), with the next highest rates being around 1.1 complaints per 100 customers.

Westernport Water had the most significant improvement in the number of complaints per 100 customers with 0.89 complaints, down from 1.73 complaints per 100 customers in 2007-08. Large improvements were also made by Lower Murray Water (1.32 to 0.50 complaints) and City West Water (0.88 to 0.48 complaints). Wannon Water had the largest increase in complaints with 1.65 complaints per 100 customers, up from 0.65 complaints in 2007-08.

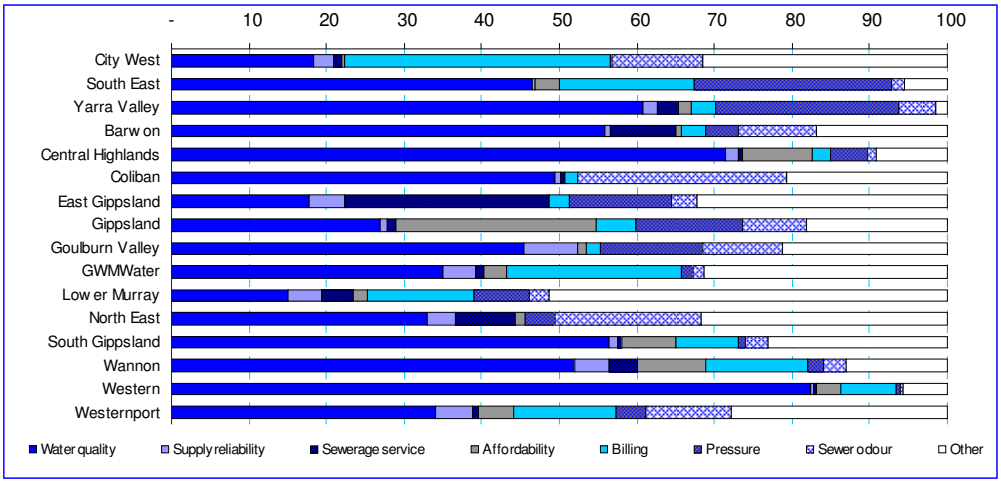
Figure 18 Complaints received by water businesses
(per 100 customers)



The complaint types received by the water businesses in order of frequency (figure 19) were water quality (49.3 per cent), pressure (13.4 per cent), billing (10.4 per cent), sewer odour (6.2 per cent), affordability (3.8 per cent), water service reliability (2.1 per cent) and sewer service reliability (2.1 per cent). [9]

[9] Other complaints not included in these categories comprised 12.7 per cent of total complaints.

Figure 19 Complaint types
(percentage)



Water quality

Western Water had the highest proportion of water quality complaints in 2008-09, representing 82 per cent of all complaints, followed by Central Highlands Water with 71 per cent. Water quality complaints made up over half of all complaints for four other water businesses (Yarra Valley Water, South Gippsland Water, Barwon Water and Wannon Water). Lower Murray Water had the lowest percentage of water quality complaints with 15 per cent, followed by East Gippsland Water and City West Water (18 per cent).

Western Water's water quality complaint levels were within its pre-determined target levels (0.392 complaints per 100 customers) and lower than the previous year. The overall low level of complaints for billing, supply reliability, sewerage service, odour and pressure resulted in water quality complaint numbers appearing statistically dominant. Over a quarter of all water quality complaints related to a single incident, in which a single burst main caused a dirty water event.

Central Highlands Water cited a single incident that accounted for the majority of the variation. Water treatment plant upgrades and new operational procedures have been implemented to reduce future variations of this nature. The implementation of changed water disinfection processes accounted for the remaining variation.

Water service reliability

Goulburn Valley Water continued to have the highest percentage of water service reliability complaints in 2008-09, accounting for 7 per cent of its total complaints, compared to 13 per cent in 2007-08.

There were no water businesses in 2008-09 that did not receive a water service reliability complaint. The best performed in this category received water service reliability complaints that accounted for less than 1 per cent of total complaints, and

includes South East Water (0.4 per cent), Western Water (0.4 per cent), Barwon Water (0.8 per cent) and Coliban Water (0.8 per cent).

In recent years the total number of complaints Goulburn Valley Water has received has declined steadily whilst the number of water service reliability complaints has remained fairly stable, typically due to one or two individual events. In 2008-09 total complaints continued to decline and water service reliability complaints halved compared to previous years, due to no major incidents occurring.

Sewage Service

East Gippsland Water had the highest percentage of sewer service reliability complaints in 2008-09 with 26 per cent, increasing notably since the previous year (up 7 per cent). Barwon Water and North East Water had the second highest, with 8 per cent, while all other businesses had results of less than 4 per cent.

South East Water and Goulburn Valley Water did not report any sewer service reliability complaints while another seven businesses had percentages of 1 per cent or less.

East Gippsland Water has advised the Commission that the high number of complaints due to sewer blockages are caused by tree root invasion, particularly as a result of prolonged drought conditions.

Affordability

Gippsland Water continues to receive the highest percentage of complaints related to affordability with 26 per cent, a figure that has more than doubled since the previous year. Central Highlands Water and Wannon Water also reported a significant level of affordability complaints with 9 per cent.

Coliban Water and East Gippsland Water did not report any affordability complaints while another two businesses had percentages of less than 1 per cent.

Billing

Billing complaints remain a significant issue for City West Water and GWMWater in 2008-09, although results have improved markedly since 2007-08. Billing complaints made up 34 per cent of all complaints for City West Water and 23 per cent for GWMWater.

North East Water did not have any billing complaints while two businesses had less than 2 per cent of all complaints relating to billing (Coliban Water and Goulburn Valley Water).

City West Water has actively pursued a reduction to its turn around times for enquiries and complaints, with a number of billing related enquiries related to metering issues, which can become complex and lengthy. It is implementing new metering guidelines which will make the procedures and metering requirements consistent with those of Yarra Valley Water and South East Water.

GWMWater stated it considers that its billing complaints are generally an extension of affordability complaints.

Sewer Odour

Coliban Water had the highest percentage of total complaints relating to sewer odour (27 per cent), followed by North East Water (19 per cent), City West Water (12 per cent) and Westernport Water (11 per cent). All other businesses recorded results of 10 per cent or less, with the best performed being Western Water (0.4 per cent).

The sewer odour complaints recorded for Coliban Water reflects repeat reports from a number of known trouble sites, most of which are in the process of repair, renovation or replacement, which are expected to produce improved results in 2009-10.

Pressure

South East Water and Yarra Valley Water experienced a high percentage of complaints related to pressure in 2008-09 with 25 per cent and 24 per cent respectively. A notable size of complaints in relation to pressure was also reported by Gippsland Water (14 per cent) and both East Gippsland Water and Goulburn Valley Water with 13 per cent.

Coliban Water received no pressure complaints while City West Water and Western Water recorded results of less than 1 per cent.

South East Water believes that a significant proportion of these issues were due to blocked service tap-ins or internal issues such as corroded galvanised wrought iron pipes, rather than a lack of system pressure. These issues were able to be rectified quickly by South East Water or by the customer's plumber.

Yarra Valley Water has a pressure reduction strategy to reduce pressure to more appropriate levels due to their proximity to the catchments. However, this contributes to the number of complaints as customers respond to changes in pressure. Yarra Valley Water also noted that in 2008-09 the business changed the classification of pressure enquiries. Previously, first customer contact would be treated as an enquiry and second contact was treated as complaint. In 2008-09 all contacts were classified as pressure complaints.

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

Since 2001, the Energy and Water Ombudsman (Victoria) (EWOV) has been responsible for investigating complaints relating to water businesses. Its role is to facilitate the resolution of complaints and disputes between consumers and the providers of electricity, gas and water services in Victoria.

EWOV records complaints under four separate categories; referred to the water business, referred to higher level contact at the water business, referred elsewhere and received for full investigation. It also records the number of enquiries it receives. Information on the number of enquires and complaints received by EWOV in relation to each business is set out in table 5.

In 2008-09, EWOV received 1 215 complaints and 137 enquiries in relation to the metropolitan and regional urban businesses, compared to 1 109 complaints and 246 enquiries in 2007-08.

In terms of the number of complaints relative to sector share, City West Water had the highest frequency of complaints referred to EWOV among the metropolitan retailers, with 36 per cent despite servicing only 20 per cent of the population. South East Water had the smallest frequency of complaints to EWOV among metropolitan retailers, with 28 per cent of metropolitan complaints while servicing 39 per cent of metropolitan customers.

For the regional businesses, Westernport Water had the highest frequency of complaints referred to EWOV with 6 per cent of all regional complaints while only servicing 2 per cent of the regional population. This was followed by Wannon Water (11 per cent of regional complaints and a 6 per cent sector share). Coliban Water experienced the smallest frequency of customer complaints to EWOV, with only 6 per cent of all regional complaints while servicing 11 per cent of regional customers. This was followed by Lower Murray Water and GWMWater (3 per cent of regional complaints, 5 per cent sector share). The number of complaints to EWOV for the other businesses were generally in line with their sector share.

Table 5 EWOV cases

Source: Energy and Water Ombudsman (Victoria), 2008-09 Annual Report

	Total cases		Enquiries	Complaints				Total complaints		Sector share
	received	%	received	referred to water business	referred to higher level contact at water business	received for investigation	referred elsewhere and other complaints	received	%	%
Melbourne Water	59	-	8	17	17	8	9	51		-
City West	314	36	34	95	123	39	23	280		20
South East	240	28	21	69	110	24	16	219		39
Yarra Valley	318	36	35	95	122	38	28	283		41
Total – Metropolitan	872	100	90	259	355	101	67	782		100
Barwon	81	19	6	30	33	9	3	75	20	21
Central Highlands	32	8	4	7	14	4	3	28	7	10
Coliban	26	6	2	9	11	3	1	24	6	11
East Gippsland	17	4	2	5	7	1	2	15	4	3
Gippsland	33	8	3	6	17	5	2	30	8	10
Goulburn Valley	41	10	8	11	15	5	2	33	9	9
GWMWater	13	3	1	4	4	1	3	12	3	5
Lower Murray	13	3	0	3	7	3	0	13	3	5
North East	24	6	1	8	11	3	1	23	6	7
South Gippsland	13	3	2	4	5	1	1	11	3	3
Wannon	47	11	0	9	26	10	2	47	12	6
Western	50	12	4	17	21	7	1	46	12	8
Westernport	31	7	6	6	14	2	3	25	7	2
Total – Regional	421	100	39	119	185	54	24	382	100	100
Total – Victoria	1352	-	137	395	557	163	201	1215	-	-

4.4 Information statements

Information statements are documents that are frequently requested by customers or other parties. The time taken for a business to process an information statement provides an important indication of the business's administrative efficiency. Under the performance reporting framework, businesses are required to report the percentage of information statements processed within five days.

Coliban Water, Yarra Valley Water, City West Water and South East Water processed all requests for information statements within 5 days in 2008-09, with eight further businesses reporting more than 99 per cent. Lower Murray Water continued to have the fewest information statements processed within 5 days with only 44 per cent, followed by North East Water (77 per cent).

5 NETWORK RELIABILITY AND EFFICIENCY

5.1 Background

This part of the report provides information on the businesses' network reliability and efficiency. It covers the areas of water supply and sewerage services looking at the levels of service interruptions and responsiveness to service problems.

5.2 Water supply reliability

This section reports information related to water supply reliability from two perspectives — the performance of the businesses' assets and the impacts on customers. Reliability is determined primarily by:

- the frequency of interruptions (as indicated 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 interruptions (as indicated by the number of interruptions restored within specified timeframes and the average duration of customer interruptions) and
- 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).

The impact of water supply interruptions on customers depends on factors such as:

- the time of day when interruptions occur
- the notice (if any) given to customers, particularly for planned interruptions
- the availability of emergency water supplies and
- the extent to which the needs of customers are otherwise accommodated.

Water supply interruptions may be:

- unplanned, such as the result of a burst pipe or damaged fire hydrant requiring immediate repair or
- planned, such as when replacing a fault-prone section of main or repairing a minor leak. The impact of planned interruptions on customers is lessened because businesses are required to notify customers in advance and as a result they can plan for the inconvenience. However, long duration planned interruptions can also inconvenience customers.

5.3 Water supply interruptions

A water supply interruption is an event that causes a total loss of water supply to some customers. The frequency at which interruptions occur across different networks is compared by measuring the number of water supply interruptions per 100 kilometres of water main.

The frequency of interruptions may be influenced by:

- the nature and reactivity of soil types in which pipes are laid, which differs across Victoria. Reactivity is a measure of the extent to which soils swell and shrink in response to changes in moisture content and
- the age, material and condition of water mains across the state.

Despite variations in soil type and the age, material and failure rate of mains in each area, the performance of each business in maintaining and improving the condition of its assets has a significant impact on supply reliability in the medium to long term. The effective and efficient targeting of renewals or replacement of pipes with high failure rates can help to reduce or contain interruption rates.

In 2008-09 the total rate of planned and unplanned water supply interruptions ranged from 10.1 to 68.2 per 100 kilometres of water main (figure 20).

Wannon Water had the lowest rate of water supply interruptions (10.1 interruptions per 100 kilometres). City West Water reported the highest rate at 68.2 interruptions per 100 kilometres of water main, down from 74.4 in 2007-08, followed by Yarra Valley Water (67.9).

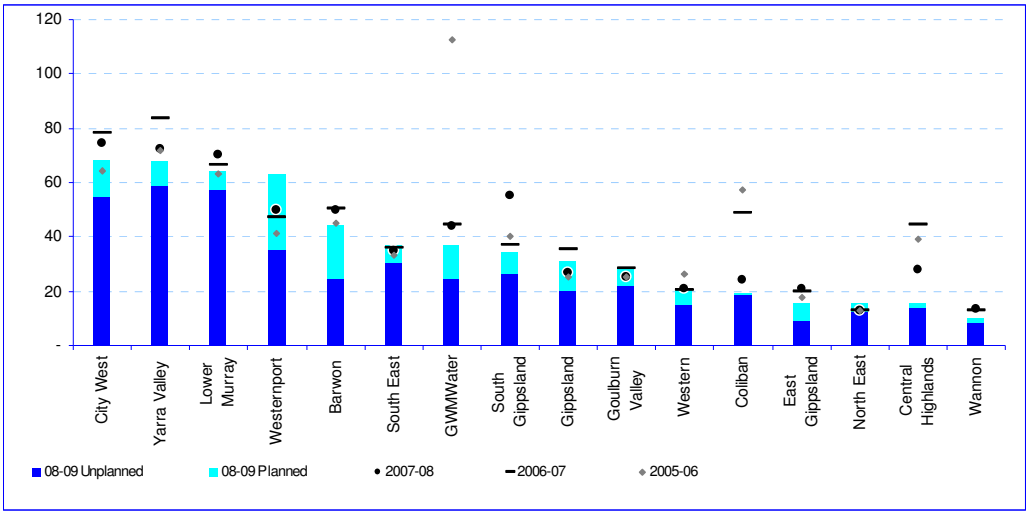
Wannon Water identified that stable sandy soils in its supply area and its proactive water main renewable program results in low rates of interruptions.

City West Water and Yarra Valley Water both identified that reactive clay soils prevalent in their distribution areas result in higher rates of water supply interruptions, with continuing dry conditions exacerbating the issue. Yarra Valley Water commented that its rate of interruptions is also influenced by the relatively higher pressures in its areas resulting from its proximity to Melbourne's storages and the natural topography.

South Gippsland Water reported the most significant reduction in the number of interruptions from 55.1 per 100 kilometres in 2007-08 to 34.2 per 100 kilometres in 2008-09. Central Highlands Water also had a large reduction in the number of interruptions from 27.8 per 100 kilometres in 2007-08 to 15.3 per 100 kilometres in 2008-09.

South Gippsland Water identified that the rollout of gas reticulation to major towns impacts on the frequency of bursts and leaks, with a lower impact on 2008-09 due a reduced intensity predominately outside the urban area. Central Highlands Water considers that improved pressure management, valve replacement works and its mains renewal program have supported the lower number interruptions reported.

Figure 20 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.

In 2008-09 (figure 21):

- the lowest frequency of planned customer interruptions were experienced by the customers of Coliban Water (0.00 interruptions per customer) followed by Central Highlands Water (0.01) and North East Water (0.01).
- the highest frequency of planned customer interruptions was experienced by customers of Westernport Water (0.88 per customer)
- Central Highlands Water and Wannon Water reported the lowest frequency of unplanned customer interruptions (0.07 per customer), followed by Coliban Water and North East Water each with 0.09 per customer
- Westernport Water for the fourth consecutive year had the highest unplanned customer interruption frequency (0.64 per customer significantly above South Gippsland Water (0.31) and City West Water (0.26).

Coliban Water commented that it limits planned interruptions through a policy requiring connections to water mains to be conducted under pressure or temporary service provision be made.

North East Water, Central Highlands Water and Wannon Water identified that their renewals programs contributed to the lower frequencies reported. Additionally, North East Water and Central Highlands Water nominated valve replacement

works supported the result, while Wannon Water identified the benefit of its relative stable soils on the level of interruptions.

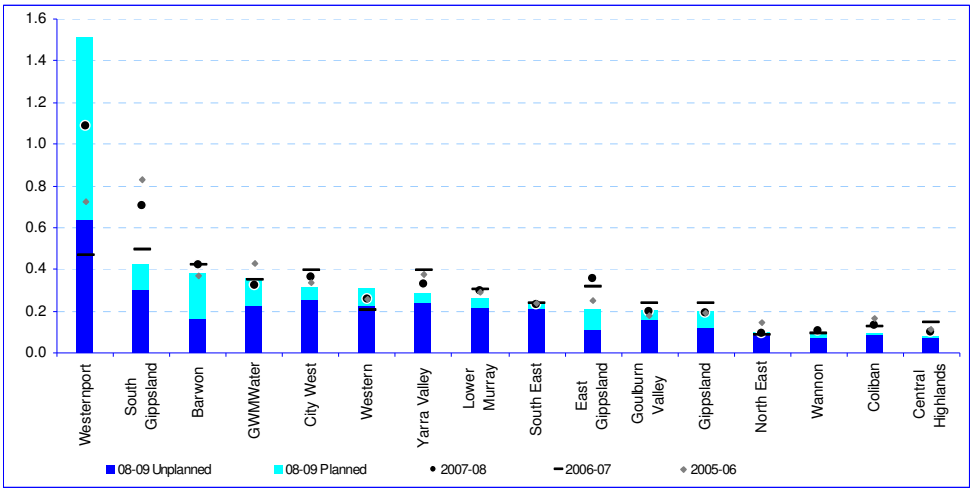
Westernport Water and Barwon Water attributed their relatively high frequency of planned interruptions to their air scouring program, aimed at maintaining water quality at a high level.

When considering both planned and unplanned customer interruptions together:

- the customers least likely to experience customer interruptions where those of Central Highlands Water (0.08 interruptions per customer) followed by Coliban Water (0.09), Wannon Water (0.09) and North East Water (0.10).
- the customers most likely to experience customer interruptions were those of Westernport Water with 1.51 interruptions per customer.

Figure 21 Average customer interruption frequency

(interruptions per customer)



The timing of customer interruptions, as well as the frequency will have an impact on the inconvenience caused to customers. Customer interruptions during peak hours of water use are those which occur between the hours of 5am to 9am and 5pm to 11pm.

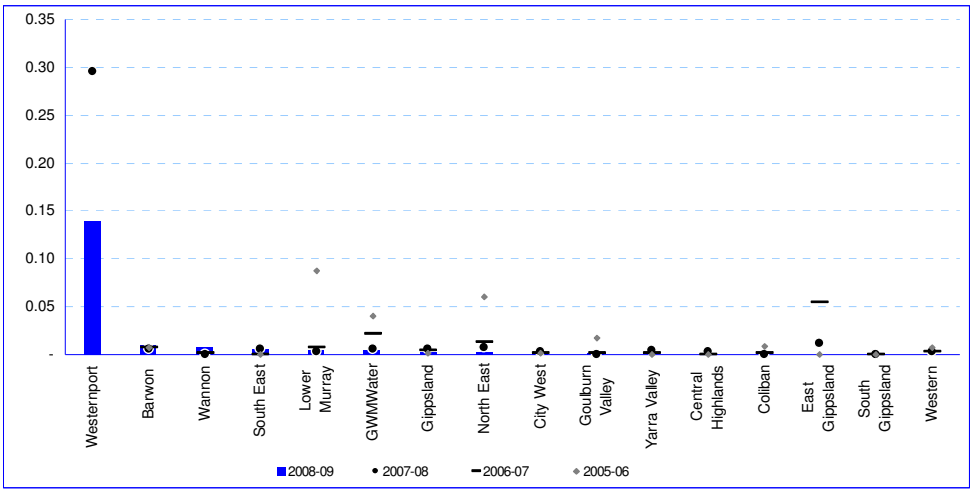
Regarding planned customer interruptions, even though customers will have prior knowledge of when and for how long the interruption will occur, peak hour interruptions (figure 22) can still be inconvenient for a household preparing for work and school.

In 2008-09, four water businesses reported no planned customer interruptions during peak hours including Coliban Water, East Gippsland Water, South Gippsland Water and Western Water.

The business with the highest frequency of planned customer interruptions during peak hours was Westernport Water with 0.14 interruptions per customer.

Figure 22 Planned water supply customer interruptions frequency in peak hours

(interruptions per customer)



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.

While the frequency with which interruptions occur may be influenced by matters outside the control of water businesses, it is possible for businesses to establish practices and procedures to ensure the timely restoration of supply when an interruption does occur.

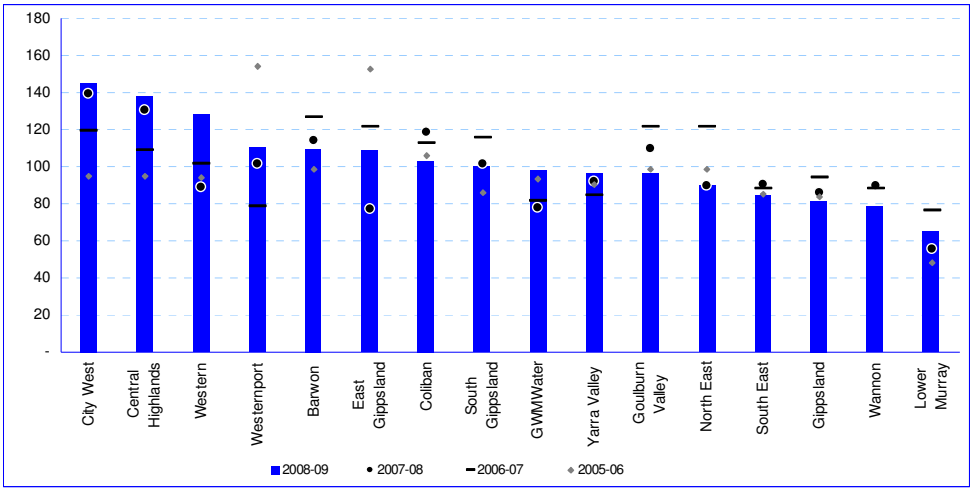
The average duration of unplanned water supply interruptions of 103 minutes in 2008-09 was similar to the 102 minutes in 2007-08 across all businesses, with average durations ranging from 65 minutes to 145 minutes (figure 23).

The shortest average duration of unplanned water supply interruptions was reported by Lower Murray Water taking on average 65 minutes to restore supply. This was the fifth consecutive year that Lower Murray Water reported the shortest time to restore unplanned water supply interruptions.

The longest durations for unplanned interruptions were reported by City West Water (145 minutes), Central Highlands Water (138 minutes) and Western Water (128 minutes).

City West Water advised that its practice when attending to burst water mains sees water turned off immediately upon response (to conserve water), directly impacting on duration times for unplanned interruptions.

Figure 23 Average interruption duration unplanned (minutes)



Planned water supply interruptions are undertaken to maintain and upgrade the supply system and to improve water quality. Planned interruptions are typically for longer durations than unplanned interruptions. Businesses seek to reduce the impact of planned interruptions by providing advance notice of when they will occur. Inconvenience can be further minimised by businesses scheduling interruptions when they will have less impact on customers and by adopting maintenance practices and procedures that ensure water supply is restored as rapidly as possible.

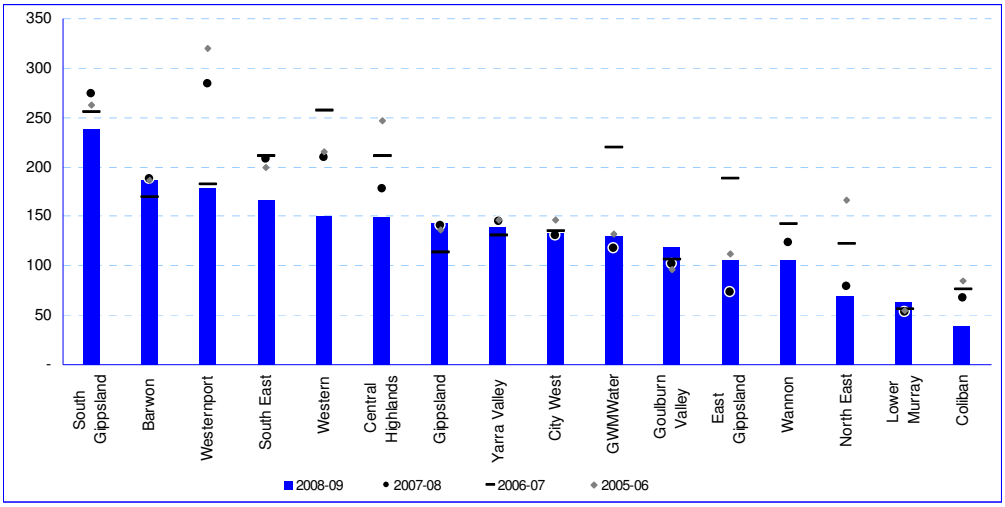
In 2008-09, the average duration of planned water supply interruptions (figure 24) was 155 minutes (down from 170 minutes in 2007-08).

The fastest restoration time of planned water supply interruptions were reported by Coliban Water (39 minutes), followed by Lower Murray Water (63 minutes) and North East Water (68 minutes).

The slowest restoration times for planned interruptions were reported by South Gippsland Water (238 minutes).

When carrying out planned water supply interruptions, South Gippsland Water advised that it aims to utilise its full service standard of minutes interrupted (current target 320 minutes) to ensure planned works (such as air scouring) are performed comprehensively so as to maximise quality outcomes.

Figure 24 Average duration of planned interruptions (minutes)



5.6 Overall reliability

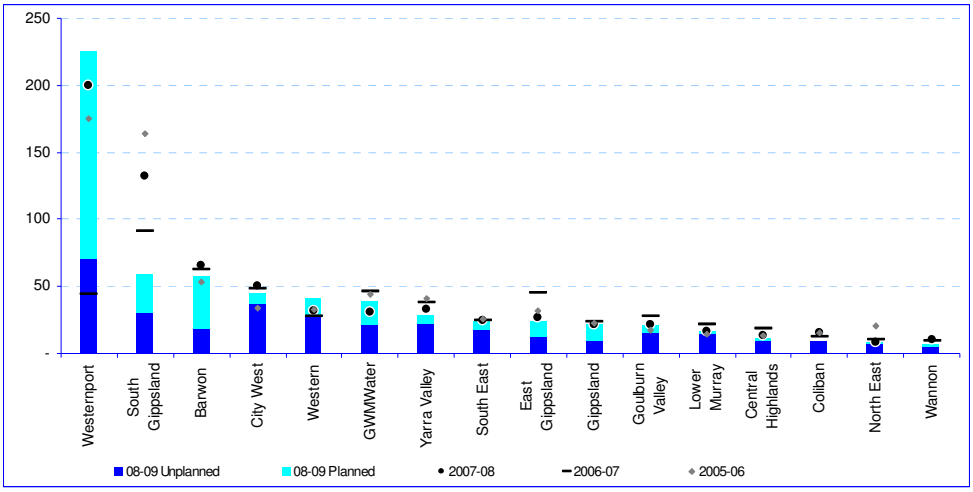
Overall reliability of a water supply network is measured by customer minutes off supply (the product of average customer interruption frequency and average interruption duration). Therefore, businesses can seek to improve overall reliability through a number of strategies such as reducing the frequency of interruptions, reducing the number of customers affected with each interruption event or by targeting the duration of interruptions. In seeking to improve reliability, businesses are likely to pursue a combination of each of these approaches.

In 2008-09 the average customer minutes off supply for water supply interruptions (figure 25) ranged from 8 to 226 minutes with an average of 31 minutes across all suppliers. The most reliable supply was from Wannon Water (8 minutes off supply per customer), Coliban Water (9 minutes) and North East Water (9 minutes). The least reliable supplies were at Westernport Water (226 minutes) and South Gippsland Water (60 minutes).

While South Gippsland Water reported the second highest average customer minutes off supply for water supply interruptions, its performance improved the most in 2008-09, declining from 132 minutes in 2007-08 to 60 minutes in 2008-09.

South Gippsland Water advised that its program of planned quality works results in a higher average time of customer minutes off supply. The frequency of the cleaning program is aimed to manage water quality due to the high manganese in most of the raw water sources in the South Gippsland region. Storage levels in 2008-09 resulted in a reduction in planned interruptions, resulting in a substantial decrease in the average customer minutes off supply.

Figure 25 Average customer minutes off supply
(minutes off supply)



In 2008-09:

- the lowest unplanned customer minutes off supply were reported by Wannon Water with 6 minutes, with North East Water, Coliban Water, Gippsland Water and Central Highlands Water all reporting less that 10 minutes.
- the highest unplanned customer minutes off supply were reported by Westernport Water (70 minutes off supply).
- the lowest planned customer minutes off water supply were reported by Coliban Water and North East Water with less than 1 minute. A total of twelve water businesses reported a time of less than 15 minutes.
- the highest customer minutes off supply for planned interruptions were reported by Westernport Water (156 minutes off supply), followed by Barwon Water with 39 minutes.

Barwon Water and Westernport Water commented that its higher customer minutes off supply for planned interruptions reflects its air scouring program to maintain high quality, aesthetically pleasing water supply to its customers. Westernport Water also reported that the unplanned result was due to planned air-scour interruptions going unplanned.

5.7 Bursts and leaks

A burst or leak is an unplanned event in which water lost is attributable to the failure of a pipe, hydrant, valve or fitting of joint material (being the mains and trunk infrastructure, excluding the mains to meter connections) regardless of cause. Bursts and leaks can also be influenced by external factors such as network age and soil conditions. While the section above looks at interruptions to supply, not all bursts and leaks cause an interruption. The measure is therefore only an indication of the efficiency and condition of the water supply network.

In 2008-09, the average rate of bursts and leaks was 44 per 100 kilometres of water main (compared with 46 per 100 kilometres of water main in 2007-08), with performance ranging from 11 to 67 per 100 kilometres (figure 26).

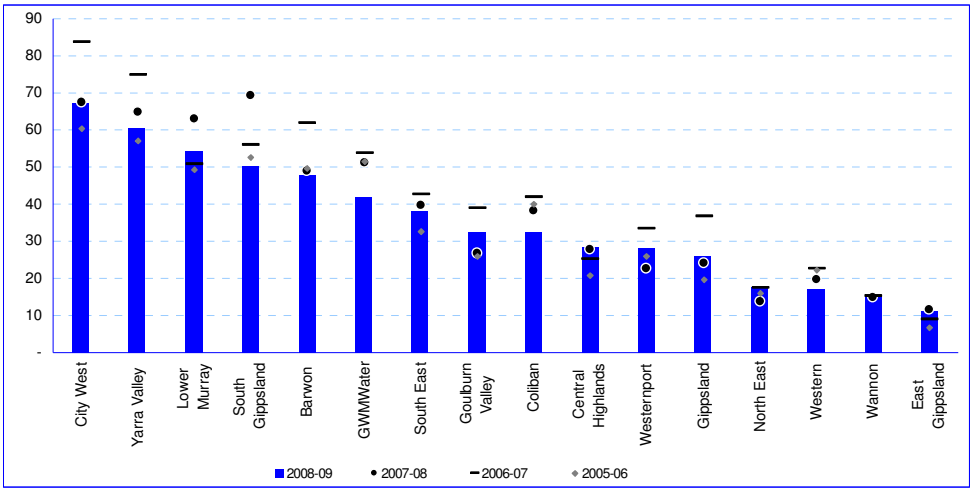
East Gippsland Water reported the lowest number of burst and leaks for the fourth consecutive year, averaging 11 per 100 kilometres of water main.

The highest number of bursts and leaks were reported by City West Water with 67 per 100 kilometres of water main and Yarra Valley Water (60).

Eight businesses reported a decrease in the number of bursts and leaks from 2007-08, with South Gippsland Water reporting the largest decrease declining by 27 per cent.

South Gippsland Water identified that intensity of the rollout of gas reticulation to major towns impacts on the frequency of bursts and leaks, with a lower intensity of roll out in 2008-09 with most works being performed outside the urban area resulting in a reduction in the number of bursts and leaks.

Figure 26 Bursts and leaks
(per 100 km of water main)



5.8 Response times to bursts and leaks

This indicator provides a measure of the time taken by businesses to arrive at the site of the burst after it is reported by a customer (figure 27 and figure 28).

The severity of bursts and leaks has been recorded according to three priority levels:

- priority one: is a burst or leak that causes, or has potential to cause, substantial damage or harm to customers, water quality, flow rate, property or environment.
- priority two: is a burst or a leak that causes, or has the potential to cause, minor damage or harm to customers, water quality, flow rate, property or environment.
- priority three: a burst or leak that causes no discernable impact on customers, property or the environment.

Priority one and two events require more rapid responses from the businesses as they have the greatest impact on customers and water loss. Smaller businesses are likely to have lower rates of (and in some instances no) priority one bursts because of the nature of its water supply systems. For example, East Gippsland Water, Goulburn Valley Water and Western Water did not report any priority one bursts.

Priority three interruptions are typically caused by minor leaks on valves or hydrants and have little direct impact on customers. This means that they have a lower maintenance priority and response times are often quite high. However, they need to be repaired to reduce water losses or avoid more extensive damage occurring.

In relation to priority one bursts (figure 27):

- the quickest response times were reported by Lower Murray Water (16 minutes)
- the longest response times were from Central Highlands Water (42 minutes), and South East Water (37 minutes).

In relation to priority two bursts and leaks (figure 28):

- the quickest response times were Lower Murray Water (14 minutes) and Western Water (18 minutes).
- four businesses have a notably longer response time, being Gippsland Water (115 minutes), Central Highlands Water (97 minutes), South East Water (97 minutes) and Coliban Water (81 minutes).

Of all the businesses, Westernport Water reported the greatest increase in response time for bursts and leaks (priority 2), increasing from 33 minutes in 2007-08 to 64 minutes in 2008-09.

Central Highlands Water, Coliban Water and Gippsland Water commented that their large geographical areas and resultant travel distances impacts greatly on the time taken to attend to bursts and leaks.

South East Water commented their aim is to attend and repair priority 1 and 2 bursts and leaks rather than inspecting and then returning at a later time to undertake repairs, with the objective to minimise the time to restore interruptions.

Westernport Water commented that its response time for priority 2 bursts and leaks was influenced by one event that was reported as an insignificant leak but when inspected found to be a priority 2 classification.

Figure 27 Average response times to bursts and leaks – priority one
(minutes)

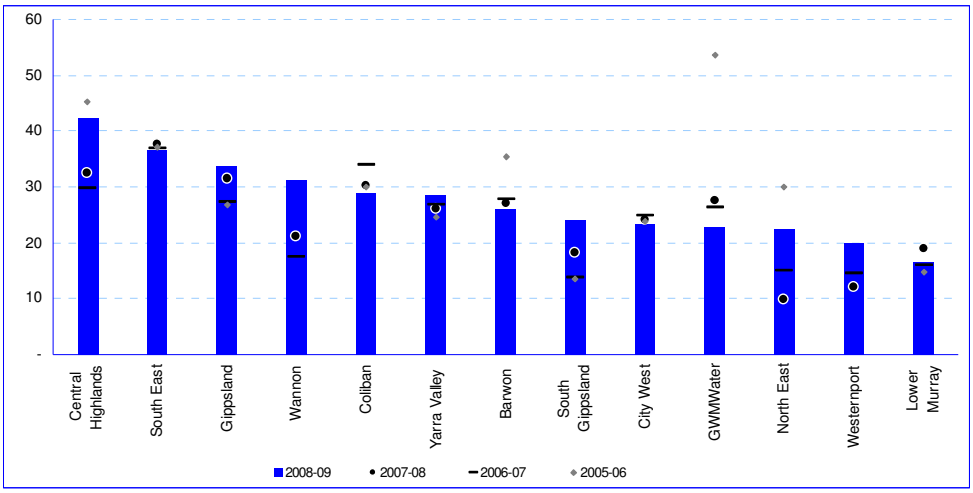
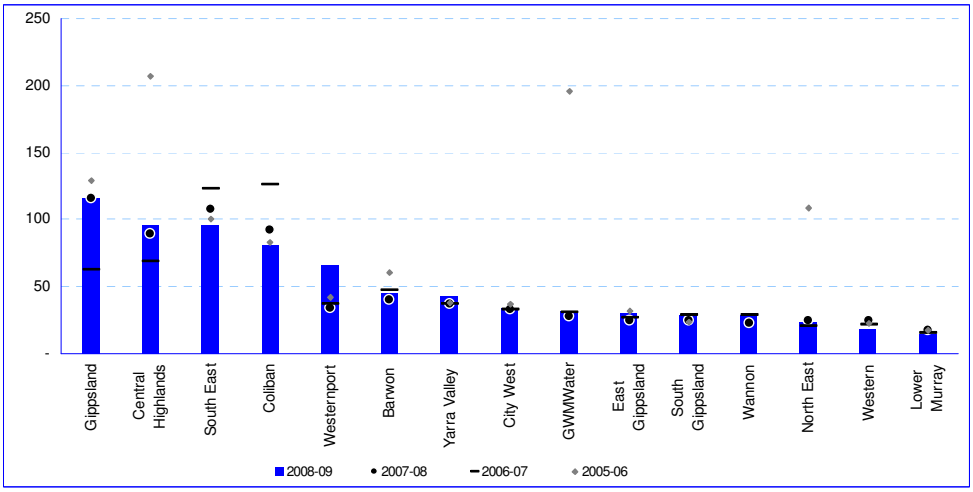


Figure 28 Average response times to burst and leaks – priority two
(minutes)



5.9 Rectification times for bursts and leaks

The rectification time represents the total time taken to repair a burst or leak. It is measured from the time of receiving the first notification of the problem and includes responding to and rectifying the fault to the required level of service.

In relation to priority one bursts (figure 29):

- East Gippsland Water, Goulburn Valley Water and Western Water reported no priority one bursts and leaks in 2008-09. The businesses with the shortest

rectification times were Westernport Water (110 minutes) and North East Water (120 minutes).

- businesses with the longest rectification times were Wannon Water (443 minutes) and Central Highlands Water (414 minutes).
- the rectification time for Westernport Water reduced by 147 minutes compared to 2007-08. Large increases in rectification time relative to 2007-08 were reported by Wannon Water (212 minute increase) and Lower Murray Water (179 minute increase).

Central Highlands Water commented that their large geographical areas and resultant travel distances impacts greatly on the time taken to rectify bursts and leaks and that two bursts originally classified as a priority one burst were found not to be significant but were not reallocated to a lower priority following the completion of the works.

Wannon Water commented that it has incorrectly reported three events as priority 1 when they should have been reported as priority 3 events, resulting in a higher rectification time report for priority 1.

Lower Murray Water linked the increase in rectification time to a single burst pipe incident over the Easter period, which was isolated and repaired during normal working hours with no customers experiencing an interruption.

In relation to priority two bursts (figure 30):

- the business with the fastest rectification times was Lower Murray Water (133 minutes) and the longest rectification time South Gippsland Water (1724 minutes).
- Coliban Water was the most improved for this indicator, down 219 minutes, representing a 35 per cent decrease from 2007-08.
- Nine businesses reported increases for this indicator, notably Westernport Water (up 346 minutes), East Gippsland Water (up 177, Western Water (up 232 minutes) and Gippsland Water (up 254 minutes).

South Gippsland Water advised that one priority 3 leak was not rectified for over one month due to its location and the type of works involved. It was rectified together with other planned works and was extremely minor.

Coliban Water commented that its improved rectification time is largely attributable to a 16% reduction in the number of bursts.

Gippsland Water commented that the distances required to travel to the location of the priority 2 bursts and leaks directly affect the time taken to respond to bursts and leaks.

Westernport Water and Western Water identified issues with a single or small number of priority 2 incidents that led to the increased rectification time.

In relation to priority three bursts (not graphed):

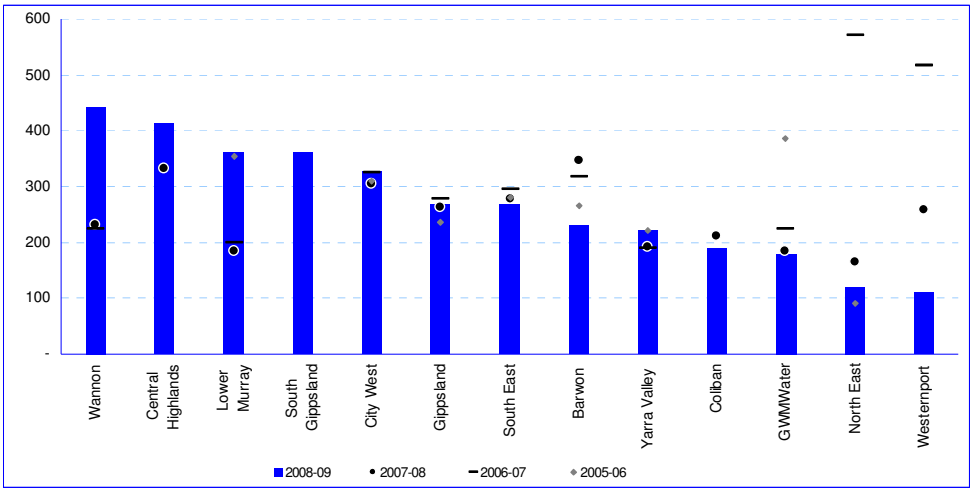
- the businesses with the fastest rectification times were North East Water (158 minutes) GWMWater (214 minutes) and Lower Murray Water (271 minutes).

- the businesses with the slowest rectification times were City West Water (2 749 minutes), Yarra Valley Water (2 735 minutes), Westernport Water (2 588 minutes) and East Gippsland Water (2 502 minutes).

City West Water commented its performance was similar to previous years. Yarra Valley Water identified that extreme weather events during the summer of 2009 resulted in a substantial increase in the rate of bursts and leaks impacting on the resources available for rectification. Westernport Water commented that an increased rate of minor leaks identified during air-scouring contributed to the slow rectification time for priority 3 bursts and leaks.

Figure 29 Average time to rectify bursts and leaks – priority one

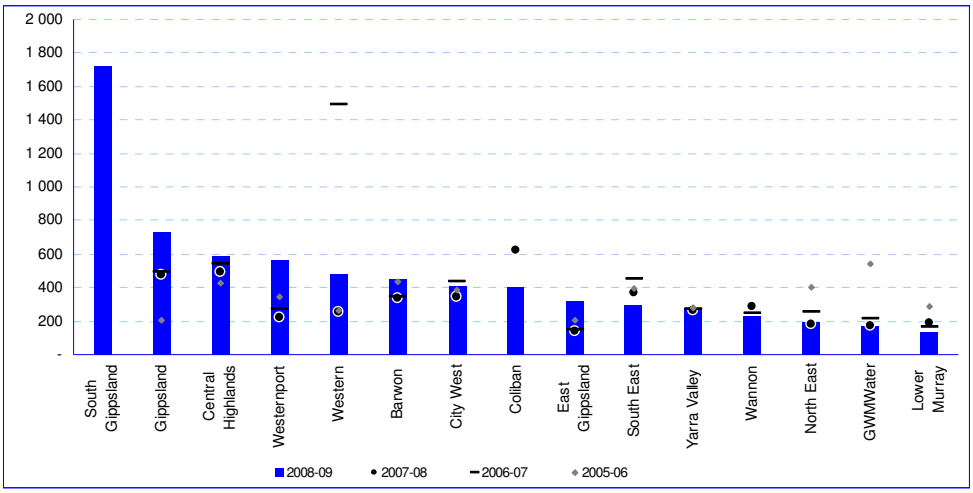
(minutes)



Note: East Gippsland Water, Goulburn Valley Water, and Western Water did not record any priority one bursts.

Figure 30 Average time to rectify bursts and leaks – priority two

(minutes)



Note: Goulburn Valley Water did not report any priority 2 bursts.

5.10 Customers experiencing an interruption

This measure looks at the number of customers who experienced a particular number of interruptions in a year. While many of the performance indicators concentrate on average performance, this measure can identify customers who have received poor service with a higher number of interruptions.

The information in table 6 shows that only a small percentage of customers experienced unplanned interruptions in 2008-09. The lowest percentages of customers receiving unplanned interruptions in a year were reported by Coliban Water (4.9 per cent receiving one or more interruptions in 2008-09), North East Water (5.3 per cent) and Central Highlands Water (5.6 per cent). Businesses with the highest percentage of customers experiencing one or more interruptions were Western Water (16.0 per cent) and South Gippsland Water (26.4 per cent).

Coliban Water attributed its low percentage of customers experiencing an interruption to stable ground conditions, reductions in supply pressures and pressure variations due to the restrictions and undertaking repairs under pressure where possible.

North East Water attributes its low rate of customer interruptions to the age of its infrastructure and the renewals program and an ongoing valve installation programme reducing the shutdown areas within the water reticulation network.

City West Water identifies the effect of reactive clay soils on cast iron water mains which are predominate in its licence area as contributing to a higher rate of customer interruptions.

Western Water attributes a higher rate of contractors damaging water mains related to Western Water experiencing some of the highest growth in Victoria.

Actions include a major focus on “dial before you dig”, and specific actions with external contractors to assist locating water assets.

Table 6 Percentage of customers experiencing an unplanned interruption in 2008-09
(per cent)

Number of interruptions experienced by a customer	*1*	*2*	*3*	*4*	*5*	*>5*
City West	13.62	3.71	1.25	0.13	0.05	0.00
South East	11.67	2.54	0.66	0.20	0.05	0.02
Yarra Valley	13.02	3.55	0.68	0.22	0.08	0.05
Barwon	9.93	2.22	0.50	0.13	0.01	0.00
Central Highlands	5.64	0.87	0.07	0.00	0.00	0.00
Coliban	4.94	0.84	0.08	0.00	0.00	0.00
East Gippsland	10.65	0.70	0.06	0.03	0.00	0.00
Gippsland	7.20	1.52	0.28	0.07	0.04	0.00
Goulburn Valley	11.46	1.44	0.23	0.21	0.04	0.00
GWMWater	10.18	0.41	1.70	0.07	0.15	0.00
Lower Murray	11.89	3.18	0.75	0.21	0.00	0.06
North East	5.29	0.56	0.56	0.05	0.07	0.00
South Gippsland	23.03	2.87	0.19	0.22	0.06	0.00
Wannon	6.73	1.34	0.14	0.00	0.00	0.00
Western	16.03	2.68	0.19	0.16	0.00	0.00

Note: Westernport Water did not report on this indicator.

5.11 Restoration of unplanned and planned customer interruptions

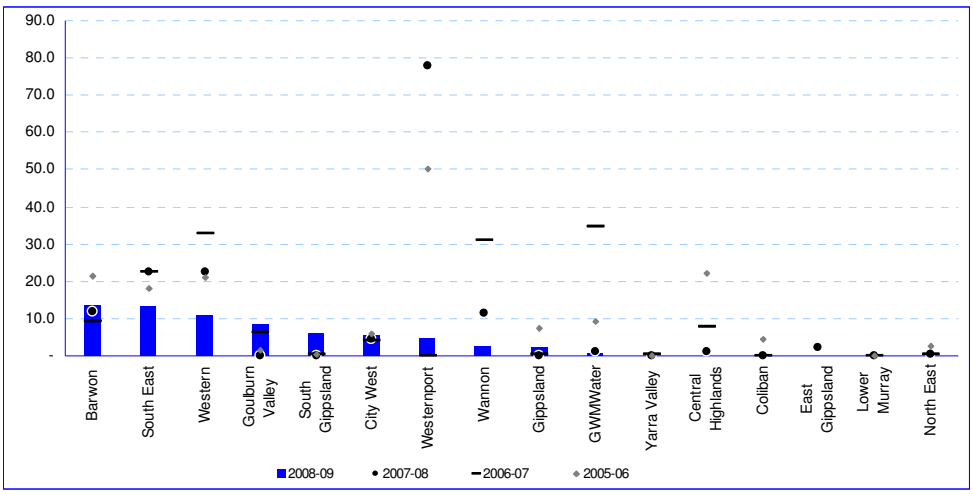
This measure looks at the promptness of a water business in restoring supply once it shuts down a water main. The general expectation is that the businesses should be able to restore most supply interruptions within 5 hours. Yarra Valley Water guaranteed restoration of unplanned interruptions within 4 hours and planned interruptions within 5 hours and gives rebates if they last longer. Customers of Central Highlands Water, City West Water and South East Water received rebate payments when unplanned interruptions lasted longer than 5 hours.

In relation to the restoration of planned customer interruptions in 2008-09 (figure 31):

- five businesses reported all customer interruptions restored within 5 hours including Central Highlands Water, Coliban Water, East Gippsland Water, Lower Murray Water and North East Water.

- the businesses with the highest rate of planned customer interruptions not restored within 5 hours were Barwon Water (14 per cent), followed by South East Water (13 per cent) and Western Water (11 per cent).
- Westernport Water, Western Water, South East Water and Wannon Water showed significant reductions relative to 2007-08. Westernport Water's percentage of customer interruptions not restored within 5 hours fell from the highest of 78 per cent in 2007-08 to 5 per cent in 2008-09.

Figure 31 Planned customer interruptions not restored within 5 hours
(per cent)

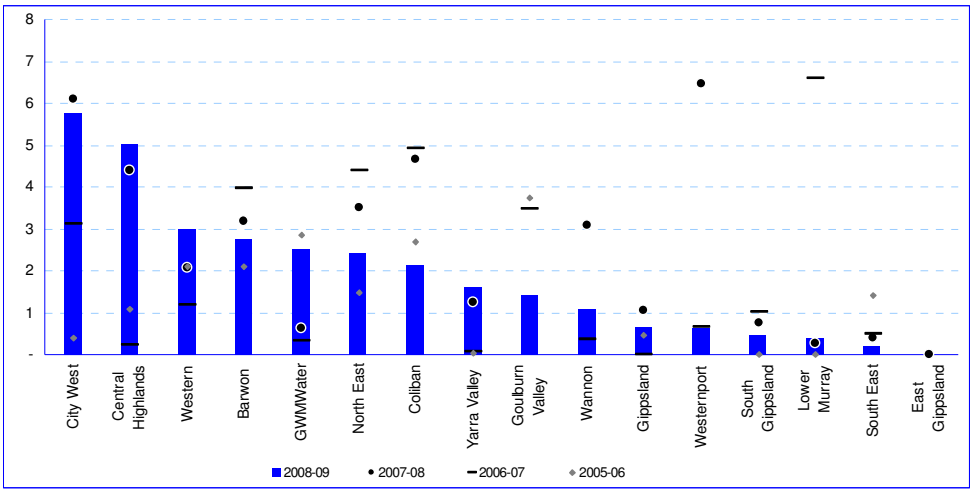


In relation to unplanned customer interruptions (figure 32) in 2008-09 the business:

- with the lowest rate of unplanned customer interruptions not restored within 5 hours was East Gippsland Water (0.0 per cent), followed by South East Water (0.2 per cent) and Lower Murray Water (0.4 per cent).
- with the highest rate of unplanned customer interruptions not restored within 5 hours were City West Water (5.8 per cent) and Central Highlands Water (5.0 per cent).
- Goulburn Valley Water's number of unplanned customer interruptions not restored in 5 hours declined from the highest in 2007-08 (15.6 per cent) to 1.4 per cent in 2008-09. Goulburn-Valley Water identified an error in 2007-08 date reported as the driver of the decline.

Figure 32 Unplanned customer interruptions not restored within 5 hours

(per cent)



The information in table 7 shows that the majority of unplanned water supply interruptions are restored within 3 hours.

Eight businesses reported over 90 per cent of unplanned interruptions restored in 3 hours, 1 less than 2007-08, with the best performer being Lower Murray Water with 97 per cent.

GWMWater recorded the greatest decline in the percentage of unplanned water supply interruptions restored within 3 hours, falling from 93 per cent in 2007-08 to 81 per cent in 2008-09. GWMWater attributed this to a decline in overall unplanned interruptions with a small increase in the number of interruptions not restored in 3 hours.

In 2008-09 the highest restoration rate for planned interruptions were reported by Coliban Water with 100 per cent planned interruptions restored within three hours, followed by Lower Murray Water and North East Water with 98 per cent.

Western Water and South Gippsland Water were two businesses that had the largest improvement in planned water supply interruptions restored within 3 hours. Western Water's performance improved from 52 per cent in 2007-08 to 85 per cent in 2008-09, while South Gippsland Water improved from 20 per cent in 2007-08 to 48 per cent in 2008-09.

Western Water considers that the decline over the last two years is a result of an increased focus to reducing planned interruption times.

Table 7 Interruption restoration within specified times (per cent)

	Planned water supply interruptions			*Unplanned water supply interruptions*		
	3 hrs	**5 hrs**	**12 hrs**	**3 hrs**	**5 hrs**	**12 hrs**
City West	69.93	94.51	99.92	75.22	94.80	100.00
South East	89.39	99.85	100.00	55.22	81.12	99.82
Yarra Valley	86.78	98.32	100.00	73.89	99.75	100.00
Barwon	78.08	96.35	99.77	54.89	87.64	98.99
Central Highlands	78.70	97.22	100.00	65.52	100.00	100.00
Coliban	90.69	98.28	100.00	100.00	100.00	100.00
East Gippsland	91.25	93.75	97.50	89.47	98.24	98.24
Gippsland	92.20	99.02	100.00	73.36	98.13	99.53
Goulburn Valley	89.09	98.70	100.00	81.19	97.03	100.00
GWMWater	80.59	97.04	100.00	90.67	98.67	99.33
Lower Murray	96.88	99.61	99.81	98.41	100.00	100.00
North East	87.31	96.45	100.00	98.08	100.00	100.00
South Gippsland	93.10	99.43	100.00	48.08	92.31	100.00
Wannon	90.67	98.67	100.00	88.00	96.00	100.00
Western	95.33	99.22	99.61	84.62	95.60	100.00
Westernport	91.73	97.74	99.25	60.58	95.19	100.00

5.12 Water losses

Non-revenue water is the difference between the volume of bulk water that leaves the business's treatment plants (or is received from bulk suppliers) and the volume of water for which the business bills its customers. It includes leakage, operational waste, theft or illegal usage, under-registration of customers' meters, unmetered water supplied for purposes such as fire fighting, and any over-registration in the bulk system meters.

The lowest level of non-revenue water was reported by Gippsland Water (2.8 per cent), GWMWater (3.6 per cent) and Coliban Water (4.1 per cent).

Westernport Water recorded the largest non-revenue water of 16.4 per cent, followed by South Gippsland Water (15.8 per cent) and Central Highlands Water (15.3 per cent).

Westernport Water identified the drivers for its high percentage of non-revenue water as system flow meters reading incorrectly, suspected non-metered hydrant use.

South Gippsland Water's non revenue water was attributed to a higher use of water usage at treatment plants and frequent reticulation pipe cleaning due to high dissolved manganese in its water supply.

Central Highlands Water attributed the high percentage of non revenue water to the very low total system demand, resulting from an extended period of severe water restrictions in the region.

Table 8 Non revenue water and infrastructure leakage index

	2007 Non revenue water (per cent)	*2008 Non revenue water (per cent)*	*2009 Non revenue water (per cent)*	*2007 Infrastructure Leakage Index*	*2008 Infrastructure Leakage Index*	*2009 Infrastructure Leakage Index*
City West	9.30	8.42	8.75	1.16	1.00	0.94
South East	9.22	10.10	10.78	0.88	0.87	0.94
Yarra Valley	13.62	14.09	12.92	1.14	1.06	0.93
Barwon	6.37	7.83	9.03	0.43	0.54	0.66
Central Highlands	13.66	15.90	15.25	0.98	1.01	0.89
Coliban	13.88	11.04	4.08	1.13	1.31	0.69
East Gippsland	13.03	13.74	8.49	1.30	1.03	0.44
Gippsland	7.30	10.60	2.81	0.61	1.04	0.85
Goulburn Valley	8.90	9.86	8.84	1.72	1.68	1.53
GWMWater	7.07	7.11	3.61			2.00
Lower Murray	6.95	6.46	8.12		0.84	1.00
North East	9.01	11.86	7.72	2.40	2.55	1.33
South Gippsland	15.05	17.70	15.80	1.20	1.40	1.10
Wannon	10.75	14.24	14.25	1.37	1.83	1.89
Western	12.18	11.84	10.51	0.86	0.80	0.95
Westernport			16.38		0.60	0.47

5.13 Sewerage service reliability

This section reports information related to 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) and
- containment of sewage within the system (as indicated by the proportion of sewage spilt during transportation).

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 context because it is confined to that customer. In contrast, a single water supply interruption will typically result in a loss of service to about fifty properties.

An appropriate measure of overall reliability of the sewerage system is the percentage of sewage collected which is contained within the system (that is, it is not released to the environment prior to treatment).

5.14 Frequency of sewer blockages

A sewer blockage is a part or total obstruction of a sewer main that impedes sewage flow and may cause a sewage spill. A sewage spill may occur as a result of a blockage or the incapacity of the sewer to handle the volume of sewage, particularly at times of high rainfall.

A range of external factors can influence performance, particularly fats and tree roots in the sewers, as well a business's own asset management practices. Dry weather conditions over the past eight years have resulted in more tree roots entering the sewers in search of water.

A sewer blockage is a partial or total blockage, which causes an interruption to sewerage services and/or a sewage spill. It includes all trunk and reticulation main blockages, but excludes blockages in the service connection branch and property drain.

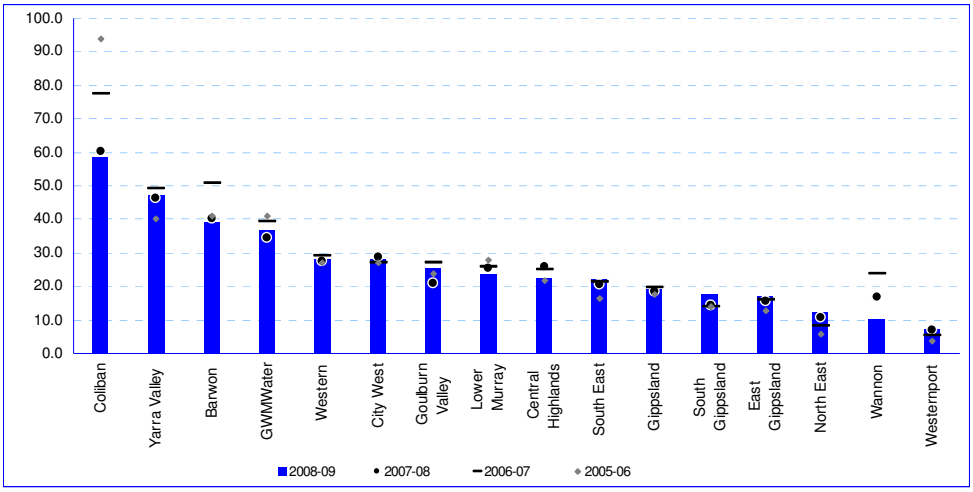
In 2008-09 the average rate of sewer blockages (figure 33) was 26.0 blockages per 100 kilometres of sewer main, compared to 25.8 blockages per 100 kilometres of sewer main in 2007-08, with performance ranging from 7.5 to 58.5 blockages per 100 kilometres. Generally the number of sewer blockages reported was similar to previous years.

The businesses with the lowest rate of sewer blockages were Westernport Water (7.5 blockages per 100 kilometres) and Wannon Water (10.1).

The highest rate of sewer blockages was again reported by Coliban Water with 58.5 blockages per 100 kilometres, followed by Yarra Valley Water (47.0).

Coliban Water experiences a high number of blockages due to the age, condition and material of sewer pipes. The number of blockages has decreased over recent years due to an active blockage reduction program.

Figure 33 Sewer blockages
(per 100 kilometres of sewer main)



5.15 Customers experiencing sewer blockages

This measure looks at the number of customers experiencing a sewer blockage caused by a fault in the business's system. In 2008-09:

- the businesses with the lowest percentage of customers who experienced a single blockage were GWMWater (0.01 per cent) and Wannon Water (0.04 per cent).the businesses with the highest percentage of customers who experienced a blockage were Yarra Valley Water (1.52 per cent) and Central Highlands Water (1.31 per cent).

Table 9 shows the percentage of customers who experienced one or more sewer blockages in 2008-09. The information shows that very few customers experienced sewer blockages or interruptions because of faults in the business's sewer system. Multiple blockages were rarely experienced.

Table 9 Customers experiencing sewer blockages
(Actual Customers and per cent)

Blockages	*1*	*2*	*3*	*>3*
City West	3 710 (1.09%)	301 (0.09%)	10 (0.00%)	0 (0.00%)
South East	1 715 (0.28%)	47 (0.01%)	3 (0.00%)	0 (0.00%)
Yarra Valley	9 455 (1.53%)	742 (0.12%)	82 (0.01%)	14 (0.00%)
Barwon	698 (0.59%)	25 (0.02%)	0 (0.00%)	0 (0.00%)
Central Highlands	655 (1.32%)	11 (0.02%)	0 (0.00%)	0 (0.00%)
Coliban	596 (1.05%)	36 (0.06%)	8 (0.01%)	1 (0.00%)
East Gippsland	162 (0.94%)	13 (0.08%)	2 (0.01%)	0 (0.00%)
Gippsland	207 (0.40%)	6 (0.01%)	0 (0.00%)	0 (0.00%)
Goulburn Valley	314 (0.70%)	21 (0.05%)	2 (0.00%)	1 (0.00%)
GWMWater	2 (0.01%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
Lower Murray	128 (0.49%)	10 (0.04%)	0 (0.00%)	0 (0.00%)
North East	161 (0.41%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
South Gippsland	142 (0.95%)	1 (0.01%)	0 (0.00%)	0 (0.00%)
Wannon	14 (0.04%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
Western	266 (0.61%)	21 (0.05%)	2 (0.00%)	0 (0.00%)

Note: Westernport Water did not provide reliable data for this indicator.

5.16 Containment of sewer spills

Reticulation and branch sewage spills are a failure to contain sewage within the sewerage system.[10] The severity of spills is broken into two priority levels.

A priority one spill refers to a spill which 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 mm (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 which results in minor

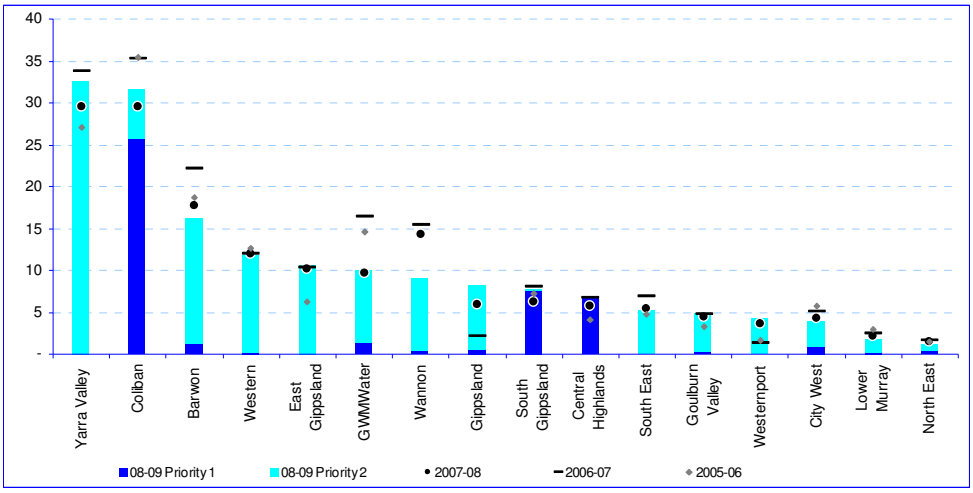
[10] This measure excludes spills from emergency relief structures and at sewer pump stations and spills due to blockages in house connection branches.

property damage or results in a discharge outside a building which does not pose a health risk.

In 2008-09 (figure 34):

- three companies reported zero priority one spills per 100km: South East Water, East Gippsland Water and Westernport Water. Eight other companies reported less than one priority one spill per 100km.
- Coliban Water has a considerably greater number of priority one spills than other businesses with an average of 25.7 per 100km, attributed to a high number of blockages due to the age, condition and material of sewer points.
- Yarra Valley Water reported a much greater number of priority two spills than other businesses with an average of 32.5 per 100km, which it linked to the high number of sewer blocks.

Figure 34 Sewer spills from reticulation and branch sewers (per 100km)



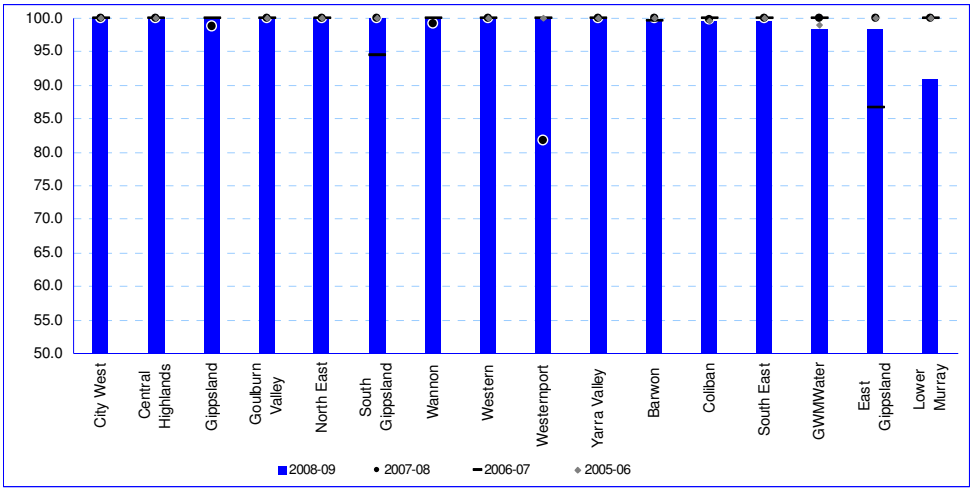
5.17 Sewer spills contained within 5 hours

This indicator measures the timeliness within which businesses contain sewer spills from branch and reticulation sewers. It is expressed as the percentage of spills that are fully contained within five hours.

In 2008-09, seven businesses failed to contain 100 per cent of sewer spills within 5 hours but all remained over 90 per cent (figure 35). The greatest increase in performance was reported from Westernport Water who managed to achieve 100 per cent (up from 81.8 per cent).

Lower Murray Water reported the lowest percentage of sewer spills contained within 5 hours, with 90.9 per cent. Lower Murray Water commented that a single sewer spill was not rectified within 5 hours, with the spill occurring at its Swan Hill treatment plant.

Figure 35 Containment of sewer spills within 5 hours
(per cent)



5.18 Spills to customers' property

This indicator looks at the number of sewer spills caused by a fault in the water business's system that discharges to a customer's property.[11]

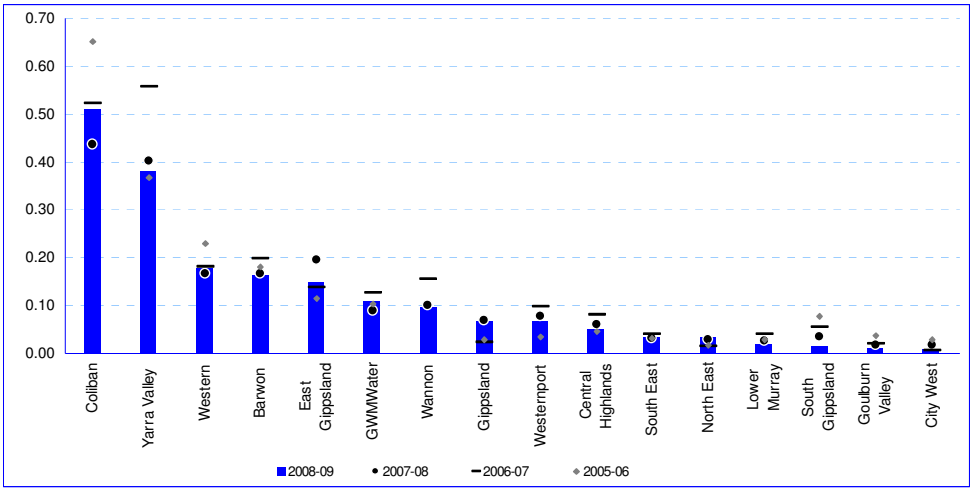
Seven businesses reported rates of sewer spills to customer's properties of 0.05 or less per 100 customers, with the lowest being reported by City West Water with less than 0.01 per 100 customers (figure 36).

The highest rates of spills to customers' properties were reported by Coliban Water (0.51 per 100 customers) and Yarra Valley Water (0.38).

Coliban Water experiences a high number of blockages due to the age, condition and material of sewer pipes. The number of blockages has decreased over recent years due to an active blockage reduction program

[11] The indicator excludes sewer spills caused by faults in the service connection or house connection branch and the property drain.

Figure 36 Sewer spills to customer property
(per 100 customers)

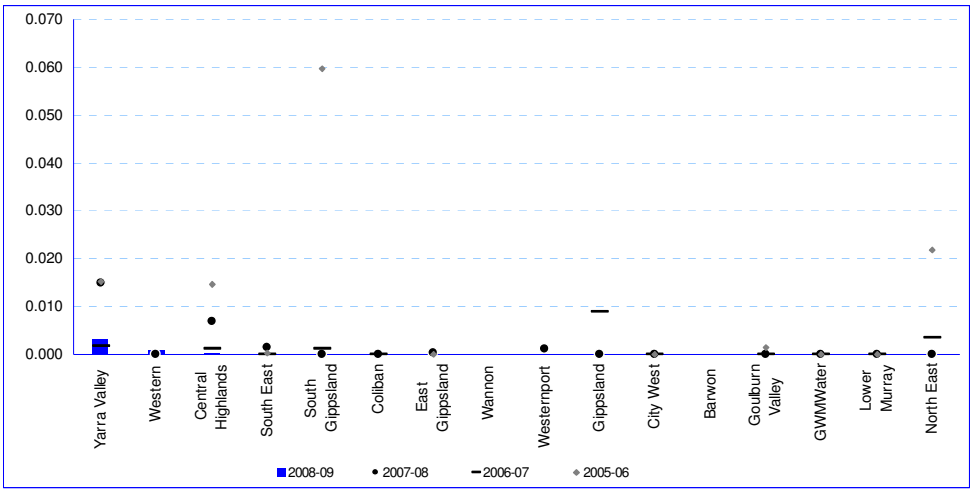


5.19 Overall reliability — proportion of sewage spilled

Overall reliability gives an indication of the percentage of sewage collected that is contained (that is, not released to the environment before treatment). It measures the volume of sewage spilt from emergency release structures and pump stations.

Figure 37 shows a relatively small volume of sewage was spilt to the environment during transportation in 2008-09. Yarra Valley Water reported the highest proportion with (0.003 per cent), all other businesses reported less than 0.001 per cent.

Figure 37 Sewer spill volume of percentage transported



Note: Not all business have emergency release structures on their sewers and many smaller water businesses do not have the capacity to measure the volume of sewage spilt.

6 DRINKING WATER QUALITY

6.1 Background

The water businesses monitor and manage the quality of drinking water supplied to customers with the aim of ensuring that its potential health, aesthetic and economic impacts are appropriately managed.

- Health impacts may result from the presence of microorganisms such as bacteria and viruses due to, for example, the faecal contamination of source water or from the presence of chemicals that are in the water as a result of water treatment (such as aluminium, chlorine, trihalomethanes), natural occurrence (such as minerals) or agricultural or mining activities (such as pesticides).
- Aesthetic impacts are caused mainly by colour, taste and odour, and result from microbiological, physical and chemical causes.
- Economic impacts may arise from the physical and chemical characteristics of water, such as those that cause pipe corrosion or affect product quality.

The businesses have legal obligations under the *Safe Drinking Water Act 2003* to monitor and maintain the quality of drinking water they supply in their area. During 2007-08, water businesses were required by the Department of Human Services (DHS) to report summaries of their water quality test results for *Escherichia coli (E. coli)*, turbidity and a range of chemicals.

The *Safe Drinking Water Act 2003* provides a framework for drinking water quality that includes:

- risk management obligations
- a set of standards for key water quality parameters and
- information disclosure requirements for water businesses, including a requirement to publish an annual water quality report.

The performance indicators collected by the Commission measure the percentage of customers across a water business with a drinking water supply that complied with the standards. It should also be noted that some reticulated water supplies in regional Victoria do not need to be supplied to drinking water standards. These supplies are not included in the indicators.

DHS publishes a detailed annual report on the quality of Victoria's drinking water supplies in February each year. Information about the quality of local drinking water supplies can be obtained from the DHS report or from water quality reports published by each business.

6.2 Microbiological water quality

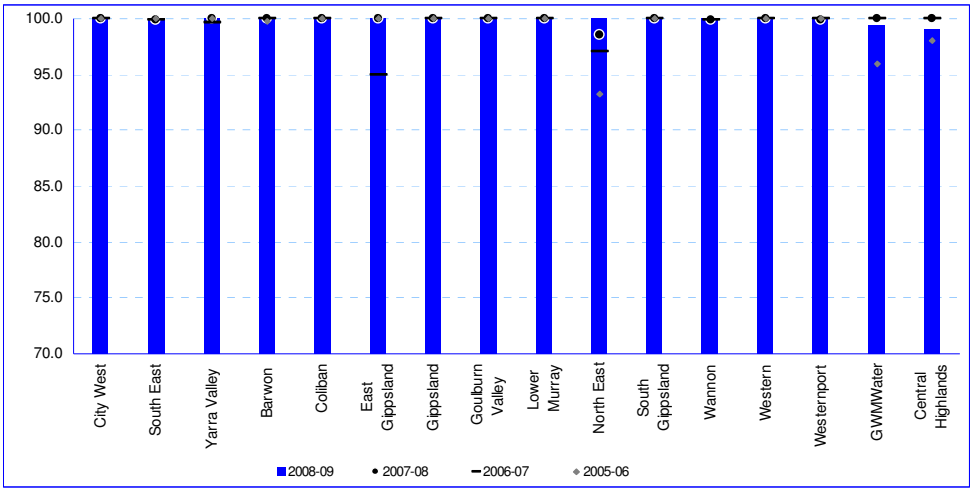
The most significant indicator of microbiological water quality is the bacteria *Escherichia coli (E. coli)*. The presence of *E. coli* means that water may be contaminated with faecal material. These organisms should not be present in drinking water. For annual reporting purposes 98 per cent of samples of drinking water in each locality should be free of the presence of *E. coli*.

During 2008-09, almost all customers received drinking water that met *E. coli* requirements as specified by DHS (figure 38). North East Water improved its results from previous years, increasing from 98.5 per cent to 100 per cent of customers receiving water meeting *E. coli* requirements in 2008-09. However, results of GWMWater and Central Highlands Water decrease from previous years, dropping from 100 per cent to 99.4 per cent and 99.0 per cent respectively.

North East Water has been investing in systems that have had issues with non-conformance in the past due to non-residual disinfection systems. Through installing multiple barriers in these systems, it has been able to comply with the *Safe Water Drinking Act*.

GWMWater explained that this is a known problem with plans in place to improve quality, while Central Highlands Water noted that the decrease was due to a single *E. coli* event at Beaufort. It previously only had a non-residual disinfected supply (UV only) but has since upgraded to chlorine with a compliance of 100 per cent.

Figure 38 Microbiological water quality
(per cent of customers receiving drinking water meeting *E. coli* requirements)

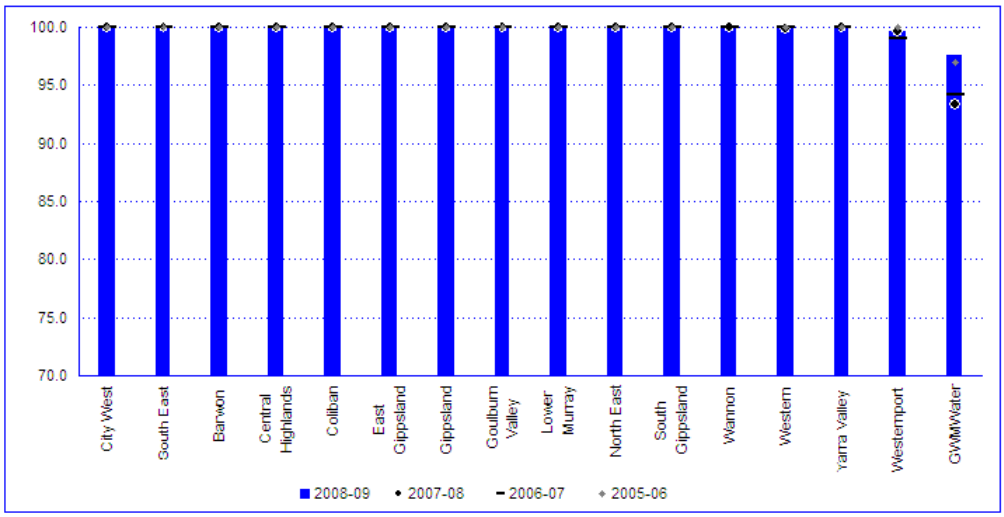


Turbidity affects the appearance of water. It is caused by the suspension of fine particles in water and is measured in Nephelometric Turbidity Units (NTU). High turbidity levels can result in water having a “muddy” or “milky” appearance. The upper confidence limit of the mean turbidity of drinking water in each location should be not greater than 5 NTU.

In 2008-09 almost all customers received drinking water that met these turbidity requirements 100 per cent of the time (figure 39). GWMWater (97.6 per cent) was the only business significantly below 100 per cent compliance; however, GWMWater improved the results from 93.4 per cent in 2007-08 to 97.6 per cent in 2008-09.

GWMWater stated that it has plans in place to improve performance related to turbidity requirements.

Figure 39 Turbidity
(per cent of customers receiving drinking water that meets turbidity requirements)



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 complaints received about water quality by each business is a measure of customer satisfaction with these aesthetic qualities.

In 2008-09, water quality complaints made up 49.3 per cent of the total complaints received across all businesses (figure 40), with concern about water colour being the main reason for complaints. Overall there was a decrease in water quality complaints to 6 295 (0.28 complaints per 100 customers) down from 7 749 (0.35 complaints per 100 customers) in 2007-08.

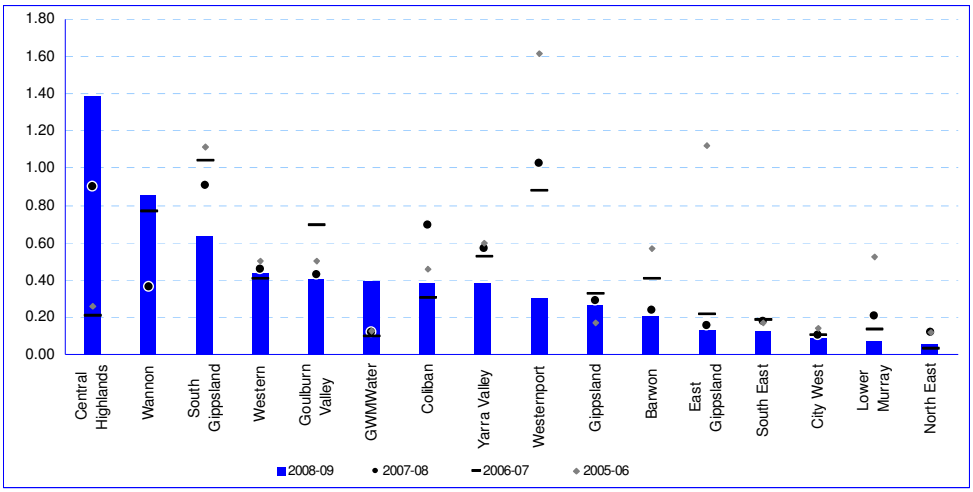
Central Highlands Water received the highest rate of water quality complaints for the year with 1.39 complaints per 100 customers (up from 0.90 in the previous year), followed by Wannon Water (0.86, up from 0.36). The water quality complaints of Wannon Water and GWMWater increase significantly in 2008-09, 139 per cent and 224 per cent respectively, while, most of the other water businesses received less water quality complaints compared to previous years.

Central Highlands Water noted that it received above average water quality complaints due to an isolated event in one of its supply systems.

Wannon Water stated its increase in water quality complaints was due to it incorrectly reclassifying all customer contacts regarding water quality as a complaint. GWMWater stated that continuing drought has impacted on the quality of water supplied to a number of towns.

City West Water reported the lowest rate of water quality complaints with 0.11 per 100 customers, followed by North East Water (0.12), GWMWater (0.12) and East Gippsland Water (0.15).

Figure 40 Water quality complaints — all causes
(per 100 customers)

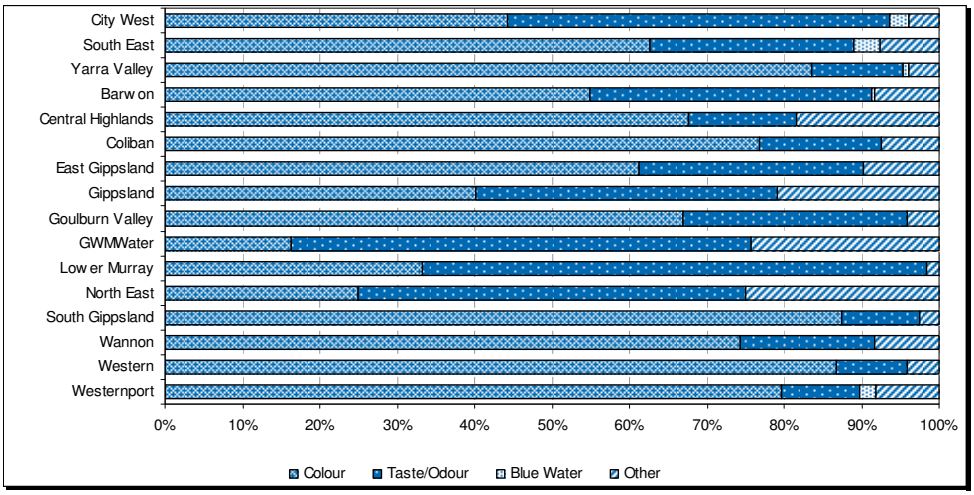


Note: Water quality complaints are reported in four categories: colour, taste and odour, blue water and other. 'All causes' refers to the total of these categories.

By cause of complaint (figure 41):

- City West Water, Yarra Valley Water, Central Highlands Water and Goulburn Valley Water attributed 75 per cent or more of complaints to water colour
- East Gippsland Water attributed 50 per cent or more of complaints to taste and odour issues, and
- Blue water complaints resulting from copper corrosion were relative rare with only South East Water, City West Water, Yarra Valley Water and Westernport Water reporting complaints, with these being 2 per cent or less of complaints attributed to blue water.

Figure 41 Water quality complaints — by cause



7 ENVIRONMENTAL PERFORMANCE

7.1 Background

This part of the report provides information on the businesses' environmental performance. It covers the areas of sewage treatment and compliance, the recycling of effluent, biosolid reuse and greenhouse gas emissions.

7.2 Sewage effluent quality

The Environmental Protection Authority (EPA) regulates sewage effluent quality through discharge licences at sewage treatment plants. The level of sewage treatment required usually depends on the type of waterway in which the treated sewage is discharged. Table 10 shows the number of sewage treatment plants and the level of treatment provided by sewage volume. Sewage from primary treatment plants is less refined than sewage from tertiary treatment plants.

The total volume of sewage treated in Victoria was 400 968 ML in 2008-09. This was the fourth consecutive year that total sewer volumes fell, decreasing by 1.25 per cent from the 2007-08 total of 406 056 ML (413 279 ML in 2006-07).

97.7 per cent of sewage was treated to at least secondary level with 12.5 per cent being treated to a tertiary standard. Melbourne Water treats sewage to a secondary level, treating 65.2 per cent (261 392 ML) of Victoria's total sewage.

Sewage treated at the tertiary level increased from 9.9 per cent to 12.5 per cent, primarily due to South East Water increasing tertiary level treatment from 1 966 ML to 6 165 ML, an increase of 214 per cent.

Lower Murray Water and Gippsland Water were the only businesses to treat sewage to a primary level in 2008-09.

South East Water stated that Mt Martha STP produces effluent close to the total nitrogen level of less than 15mg/L requirement for tertiary treatment. In 2007-08, the total nitrogen was higher than 15mg/L and was classified as secondary, whereas other years it has achieved this 15mg/L requirement and classified as tertiary.

Gippsland Water advised that primary level treated effluent waste is non-organic saline waste, transferred via direct pipeline from Latrobe Valley power stations.

Lower Murray Water's Koorlong waste water treatment plant is the only primary treatment plant in operation. This treatment plant is undergoing augmentation to produce Class C reclaimed water, and it is expected to be commissioned mid-2010.

Table 10 Sewage treatment plants

	TP-Primary	*TP-Secondary*	*TP-Tertiary*	*TP-Total*	*Vol-Primary*	*Vol-Secondary*	*Vol-Tertiary*	*Vol-Total*
Melbourne Water	-	2	-	2	-	261 392	-	261,392
City West	-	0	1	1	-	-	4 383	4 383
South East	-	4	4	8	-	4 908	6 165	11 073
Yarra Valley	-	1	8	9	-	416	7 834	8 251
Melbourne Total	**-**	**7**	**13**	**20**	**-**	**266 716**	**18 382**	**285 099**
Barwon	-	8	1	9	-	17 737	1 325	19 061
Central Highlands	-	9	2	11	-	1 398	7 718	9 116
Coliban	-	12	4	16	-	805	8 651	9 456
East Gippsland	-	9	1	10	-	1 597	1 121	2 718
Gippsland	1	8	5	14	7 960	14 426	3 998	26 384
Goulburn Valley	-	23	3	26	-	12 677	195	12 872
GWMWater	-	25	-	25	-	3 302	-	3 302
Lower Murray	1	9	-	10	1 073	4 093	-	5 167
North East	-	14	4	18	-	2 845	5 160	8 005
South Gippsland	-	8	2	10	-	1 467	1 163	2 630
Wannon	-	18	1	19	-	9 028	99	9 127
Western	-	5	2	7	-	4 756	2,205	6 961
Westernport	-	2	-	2	-	1 072	-	1 072
Non-Melbourne								
Total	**2**	**150**	**25**	**177**	**9 033**	**75 202**	**31 634**	**115 869**
State-wide Total	**2**	**157**	**38**	**197**	**9 033**	**341 919**	**50 016**	**400 968**

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. Recycled water can also be used for beneficial environmental outcomes, such as wetlands, and on-site treatment plant uses external to the treatment process. The State Government has required all metropolitan water businesses to collectively achieve 20 per cent recycling of treated effluent by 2010.

Figure 46 shows the proportion of treated effluent that is recycled by each business.

Across Victoria 30.6 per cent of all effluent was recycled in 2008-09, compared to 29.1 per cent in 2007-08 and 28.6 per cent in 2006-07. In regional Victoria 35.9 per cent of effluent was recycled compared to 30.5 per cent in 2007-08. In metropolitan Melbourne, 28.9 per cent of effluent was recycled, a slight increase from 28.6 per cent in 2007-08.

East Gippsland Water achieved for the fifth straight year a rate of effluent reuse of 100 per cent. GWMWater also reached a 100 per cent effluent reuse rate closely followed by Goulburn Valley Water (97.3 per cent). The lowest rate of recycling was by City West Water with 1.6 per cent, followed by South Gippsland Water (3.9 per cent) and Gippsland Water (5.9 per cent)

Coliban Water has increased its percentage of effluent recycled from 34 per cent in 2006-07 to 50 per cent in 2007-08 and then 78.1 per cent in 2008-09.

Coliban Water advised that recycled water usage in Bendigo has increased significantly with the commissioning of the Bendigo Water Factory during 2007-08. This plant provides Class A recycled water for urban, agricultural and industrial use.

Figure 46 Proportion of effluent reused
(per cent)

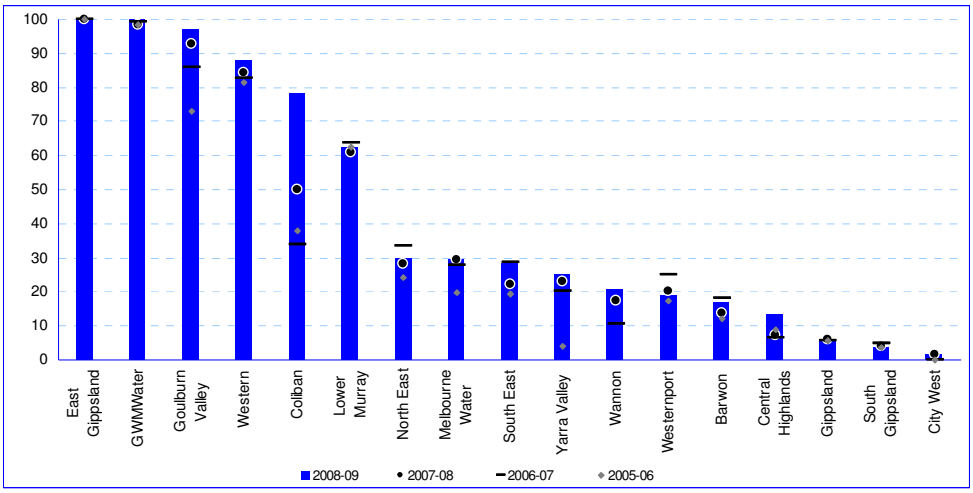


Table 11 breaks the volume of recycle effluent down by its use. The major use of recycled water is for agricultural purposes and only a small component is for urban and industrial use.

Table 11 Volume of effluent recycle by use (ML)

	Urban & Industrial	Agriculture	Beneficial Allocation	Within Process	Return to retailers for reuse	Total Reuse	Per cent
Melbourne Water	258	23 888	16 825	14 019	22119	77 109	29.6
City West	-	-	-	71	-	71	1.6
South East	1 032	1 462	-	804	-	3 298	28.0
Yarra Valley	302	157	-	1 792	-	2 252	25.0
Melbourne Total	**1 592**	**25 507**	**16 825**	**16 686**	**22 119**	**82 730**	**28.9**
Barwon	-	2 199	-	960	-	3 159	16.9
Central Highlands	134	273	-	589	-	996	13.3
Coliban	1 579	3 022	-	-	-	4 601	78.1
East Gippsland	-	1 275	1 095	-	-	2 370	100.0
Gippsland	34	569	522	-	-	1 125	5.9
Goulburn Valley	236	6 756	-	-	-	6 992	97.3
GWMWater	505	1 425	12	10	-	1 951	100.0
Lower Murray	88	2 500	-	-	-	2 588	62.3
North East	469	1 173	-	-	-	1 642	29.8
South Gippsland	5	117	-	-	-	122	3.6
Wannon	168	1 591	-	-	-	1 759	20.6
Western	1 549	3 130	-	648	-	5 327	87.9
Westernport	88	109	-	5	-	202	18.8
Non-Melbourne Total	**4 855**	**24 138**	**1 629**	**2 212**	**-**	**32 835**	**35.9**
State-wide Total	**6 448**	**49 646**	**17 689**	**18 898**	**22 119**	**115 565**	**30.6**

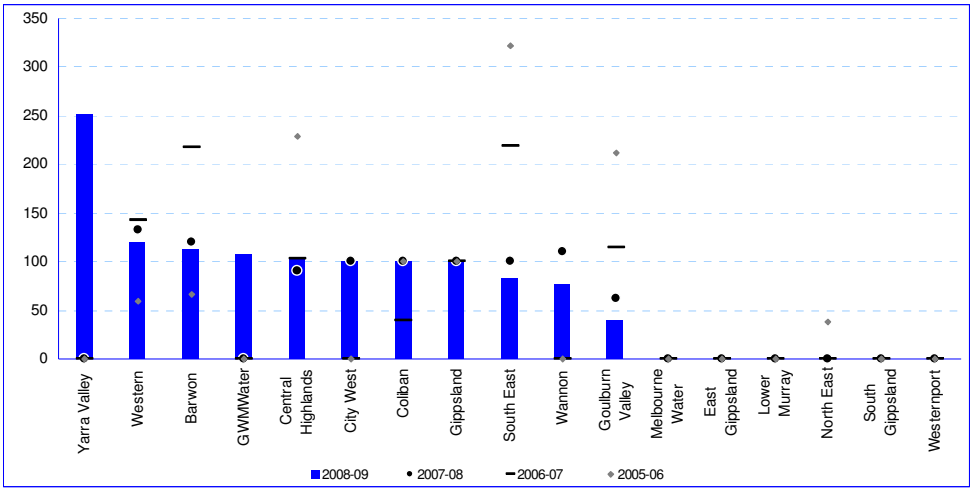
7.4 Biosolid reuse

Figure 47 shows the proportion of biosolids that are reused by each business. Overall, 23.6 per cent of biosolids were reused in 2008-09, down from 35.2 per cent in 2007-08.

The highest rate of biosolid recycling was reported by Yarra Valley Water with 250.5 per cent reused followed by Western Water with 120.5 per cent. Six other businesses also reported results of 100 per cent or over (City West Water, Barwon Water, Central Highlands Water, Coliban Water, Gippsland Water and GWMWater), while six businesses did not report any reuse of biosolids.

The high rate reported by Yarra Valley Water originates from the reuse of biosolids that were produced and stockpiled at Craigieburn Sewage Treatment Plant. An estimated 5 700 dry tonness were reused in construction works.

Figure 47 Proportion of biosolids reused
(per cent)

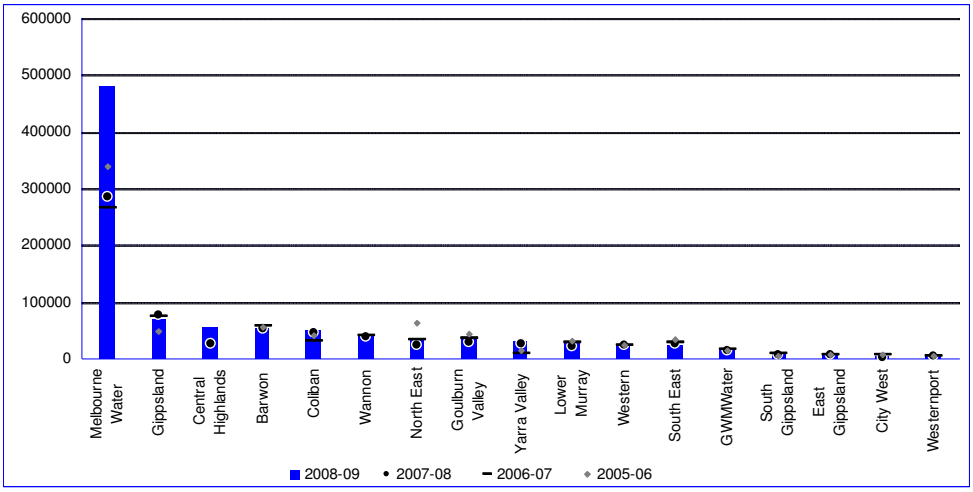


7.5 Greenhouse gas emissions

Figure 48 and Table 12 show the net greenhouse gas emissions produced by each of the businesses from 2005-06 to 2008-09.[12] The calculations are based on the conversion factors issued by the Australian Greenhouse Office for the years 2005-06 to 2007-08. 2008-09 greenhouse emissions are based on the framework of the National Greenhouse and Energy Reporting (NGER), with Melbourne Water reporting to the Department of Climate Change. Although direct comparison between businesses is difficult because of the businesses' size and operational characteristics, the data establishes a baseline against which future performance can be measured.

[12] These results are net of offsets.

Figure 48 Net historic greenhouse gas emissions
(equivalent tonnes of CO_2)



Total net CO_2 emissions reported by the Victorian urban water businesses for 2008-09 was 862 198 equivalent tonnes. Due to the nature and scale of its operations, Melbourne Water was again the largest CO_2 emitter in Victoria. Gippsland Water, Central Highlands and Barwon Water were the next largest CO_2 emitters.

Table 12 sets out the greenhouse gas emissions over the period 2005-06 and 2008-09. Only five businesses managed to reduce their CO_2 emissions in 2008-09, with the largest reduction reported by Gippsland Water (down 7.4 per cent). Significant increases in CO_2 emissions were reported by Melbourne Water (up 32 per cent), North East Water (up 35 per cent), Central Highlands (up 115.4 per cent), South Gippsland Water (up 66 per cent) and City West Water (up 55.0 per cent).

Melbourne Water stated the emissions increase in 2008-09 is mainly due to the new NGERS methodology used to estimate emissions.

The increase in Central Highlands Water's total annual greenhouse gas emissions was primarily due to ongoing drought and subsequent reliance on the Goldfields Super Pipe to secure Ballarat's water resources.

City West Water's increase in emissions resulted mainly from "sewage treatment and management" related to the inclusion of the new gifted asset (Sunshine Golf Course Sewer Mining Treatment Plant) and estimations of fugitive nitrous oxide emissions that were not included in previous years.

In 2007-08, South Gippsland Water's calculation of greenhouse gas emissions omitted a significant infrastructure component. Additionally the methane emissions calculation was changed in 2008-09 which resulted in higher figures.

Table 12 Historic net greenhouse gas emissions
(equivalent tonnes of CO_2)

	2005-06	*2006-07*	*2007-08*	*2008-09*	*1 year per cent change*
Melbourne Water	338147	265769	284464	376 157	+32
City West	8077	6905	3432	5318	+55
South East	33470	29115	27113	24488	-10
Yarra Valley	14667	10136	25985	30725	+18
Barwon	56286	58100	54094	52485	-3
Central Highlands	46778	-	26223	56483	+115
Coliban	40763	31053	44898	49905	+11
East Gippsland	8439	7927	7973	8525	+7
Gippsland	47418	73860	76596	70886	-7
Goulburn Valley	42909	35586	29983	32707	+9
GWMWater	14401	16078	14844	13434	-10
Lower Murray	32120	28220	21925	28686	+31
North East	63893	32722	24473	32922	+35
South Gippsland	4793	9101	6895	11458	+66
Wannon	-	41997	37848	39025	+3
Western	23192	23958	23484	24503	+4
Westernport	4661	4510	4872	4490	-8

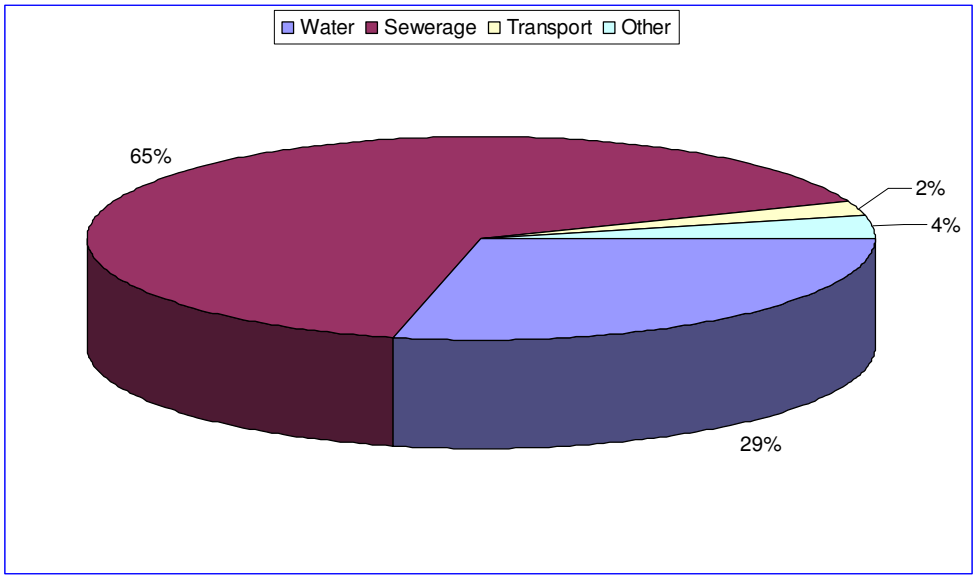
Table 13 and figure 49 set the contributions to CO_2 emissions by each water business activity. Sewage treatment processes are the biggest contributor of greenhouse gas emissions, followed by water treatment processes. These two processes generate 89 per cent of the businesses' total greenhouse gas emissions.

Table 13 Sources of greenhouse gas emissions
(equivalent tonnes of CO_2)

	Water	*Sewerage*	*Transport*	*Other*	*Offsets*	*Total* [a]
Melbourne Water	62,569	315,867	3,598	8,641	14,518	376 157
City West	191	7,147	1,604	2,574	6,198	5,318
South East	6,413	24,423	824	2,813	9,985	24,488
Yarra Valley	6,424	21,162	1,494	3,166	1,522	30,724
Barwon	13,899	34,320	1,332	2,935	-	52,486
Central Highlands	42,722	11,544	857	1,361	-	56,484
Coliban	28,407	19,719	1,230	550	-	49,906
East Gippsland	4,274	3,561	345	350	5	8,525
Gippsland	9,627	53,695	1,467	6,097	-	70,886
Goulburn Valley	14,358	17,438	1,133	469	691	32,707
GWMWater	9,107	3,210	1,707	965	1,566	13,423
Lower Murray	23,107	6,412	719	529	2,080	28,687
North East	7,109	25,344	535	256	322	32,922
South Gippsland	2,168	9,173	727	178	788	11,458
Wannon	15,247	24,280	849	493	1,844	39,025
Western	10,483	13,584	462	1,316	1,342	24,503
Westernport	1,709	2,334	203	244	-	4,490
Total	257815	593212	19086	32937	40851	862 198

[a] Total CO_2 emissions are net of offsets

Figure 49 Breakdown of greenhouse gas emissions



8 MAJOR PROJECTS

8.1 Background

The Commission's regulatory framework provides financial incentives for businesses to efficiently deliver its capital works programs. The Commission has also set in place processes to monitor the delivery of key projects across the regulatory period. In assessing businesses' Water Plans the Commission found that a small number of key projects underpinned the capital expenditure forecasts for each business. The Commission's pricing decision identified these projects and the expected delivery dates. The performance report will each year identify the projects that were expected to be delivered by the end of the financial year and whether the project has been completed. Where businesses have not completed projects they have been asked to explain the reasons for the delays.

As businesses progress further into the regulatory period there will be an increase in the number of projects undertaken, and in the number that the Commission will expect to have been completed.

8.2 Status of projects nominated for completion in 2009-10

Table 14 describes the projects that each business scheduled for completion in 2009-10, and whether or not the project has been completed. The table also lists projects that were to be completed in 2008-09, but were delayed for various reasons provided at the time.

Table 14 Status of projects nominated for completion in 2009-10

Business	*Project Description*	*Comments*
City West Water	• Monitoring system for pump stations, gauges and valves (SCADA) upgrade – phase 2 (originally nominated for 2007-08 completion)	Complete
South East Water	• 10 ML and Gamble Rd tank and 40 Ml/day pump station to provide security of supply to Carrum Downs (originally nominated for 2007-08 completion)	Complete
	• Koo Wee Rup sewage treatment plant capacity upgrade (originally nominated for 2007-08 completion)	Complete
Melbourne Water	• Werribee Aqueduct: replacing sewer aqueduct that crosses the Werribee River	The project was delayed due to technical elements being redesigned resulting in a safer and more cost effective design and commencement

Business	*Project Description*	*Comments*
		of alliance arrangements. The project is expected to be complete by June-July 2010.
	• Eastern Treatment Plant: sludge processing refurbishment and upgrade	The project is now scheduled for completion by June 2010. The project is presently in the commissioning phase. The delays have been due to a range of issues including design suitability, delays in sourcing building panels, control system interface issues and equipment process suitability.
	• Eastern Treatment Plant: implement a new nitrification/denitrification process	The first phase of providing improved treatment process in the existing aeration tanks is complete and has been in operation since 2007. The second stage of the project involving the construction of new aeration tanks has been delayed due to recent rectification issues with portions of the concrete tank floors and a more cautious approach to construct the works safely. The works are not expected to be completed until December 2010.
	• Eastern Treatment Plant: refurbish sludge drying pans	This project was completed at the end of 2008-09, a year ahead of schedule.
Barwon Water	• Geelong northern retarding facility: increase capacity of the Northern Sewage Flow Retarding facility	Project is completed and now under the defects liability period.
	• Ocean Grove to Black Rock transfer sewer	Project is completed and now under the defects liability period.
	• Wurdee Boluc water quality improvement project	Project is completed and now under the defects liability period.
	• Works to enclose water supply distribution system - Montpellier	Project is completed and now under the defects liability period.
Coliban Water	• Bulk Water purchases	Bulk Water purchases were originally scheduled to be completed during each financial year of the 2008-13 Water Plan. As Coliban Water is committed to water security in the region and could purchase the resource for a competitive price; this capital project was completed ahead of schedule. The majority of expenditure was invested during the July 2008 and March 2009 period with the commitment totalling $30.5 million.
East Gippsland Water	• Bogong Street and Capes Road high level system augmentation	This water pressure booster pump project was deferred due to acceleration of the high priority Mitchell River System Water Quality Improvement Program (MRSWQIP) Delayed timing of the project provided

Business	*Project Description*	*Comments*
		efficiency benefits. Finalising the scope of the project was subject to design completion of key components of the MRSWQIP. The design has now been completed and materials for the pump station have been purchased, Project completion has been rescheduled for the 2009-10 financial year.
	• Delivery of reuse infrastructure upgrades	
	○ Tambo Bluff and Banksia Peninsula Sewerage scheme	Construction of these projects commenced on a modified work program, however; completion of the Banksia Peninsula Scheme is now scheduled for 2009-10. Tambo Bluff Scheme is being managed by East Gippsland Shire Council as part of an overall service development contract which includes roads, drainage and electricity. Delays have been experienced due to unexpected complexity of construction conditions and required approvals.
	○ Metung: additional irrigation and winter storage	This project was subject to a design review, to ensure that highest value project outcomes would be achieved. Subsequent change in project scope (from construction of an additional winter storage to construction of a transfer pipeline, to existing winter storage) was adopted for better utilisation of existing infrastructure capacity, and to maximise operational flexibility. Accordingly, the project was delayed and is rescheduled for completion in 2010-11.
Gippsland Water	• Gippsland Water Factory	Final commissioning of the domestic wastewater process stream was undertaken in January 2010. Awaiting DHS approvals for transfer of recycled water to Australian Paper
	• Gippsland Water Factory Micro hydro and Bio gas	Microhydro plant has been completed and all equipment installed and pre-commissioned on the bio gas plant, awaiting commissioning of the industrial effluent stream.
Goulburn Valley Water	• Goulburn River to Broadford pipeline	Pipeline was complete and operational March 2009.
Lower Murray Water	• Kerang wastewater treatment plant: reconstruction of lagoons	The construction phase of the project has not been started. LMW has sought EPA approval for the Kerang waste water treatment plant to remain in its current location using its current processing method. The commencement of this project is subject to the outcome of the

Business	*Project Description*	*Comments*
		response from the EPA
	• Koorlong wastewater treatment plant upgrade and augmentation	The project is now scheduled to be completed in mid 2010. Around 75 per cent of the project was completed at 1 March 2010.
North East Water	• Wodonga water treatment plant (originally nominated for 2007-08 completion)	Complete and commissioned on 30 June 2009
	• Yarrawonga wastewater treatment plant upgrade and relocation (nominated for 2008 completion)	Complete and commissioned on 5 May 2009
South Gippsland Water	• Coalition Creek dams risk	The Coalition Creek dams risk reduction works upgrade construction and storage augmentation have currently been rescheduled for completion in 2011-12. The reasons for the rescheduling are due to investigations into the potential supply of desalinated water into the Korumburra water supply system from the proposed Desalination Plant at Wonthaggi. The outcome of this business case study, related discussions and coordination with the Desalination Water Supply arrangements will define and determine the actual works to be undertaken on the Coalition Creek Dam.
Wannon Water	• Casterton to Coleraine pipeline	Completed and commissioned in June 2009.
	• West Portland sewerage scheme.	Detailed design completed and tender documentation prepared. At the request of landowners a funding application was submitted under the Small Town Water Quality Fund on behalf of the landowners and Glenelg Shire Council.
	• Port Campbell wastewater treatment plant and recycling works	Project under design.
Western Water	• Melton outfall sewer	Complete with minor commissioning works to be done (as at November 2009)
	• Melton wastewater treatment plant augmentation (Secondary sedimentation tanks, aeration and digester)	Complete (as at November 2009).
Westernport Water	• Phillip Island - under channel pipeline	Deferred due to further investigations of design and options. The project is currently being investigated with scheduled commencement of construction in 2010-11.

9 AUDIT

9.1 Background

Under the Water Industry Regulatory Order 2003 (WIRO) the Commission has the function of carrying out audits in relation to:

- the compliance of a regulated water business with the standards and conditions of service and supply specified by the Commission in any Code or set out in the business's Water Plan, and the systems and processes established by water businesses to ensure such compliance
- the reliability and quality of information reported by a water business to the Commission, and the conformity of that information with any specification issued by the Commission and
- the compliance of a water business with asset management obligations imposed in any Statement of Obligations issued to it.

When requested by the Minister for Water, the Commission must also carry out audits in relation to compliance of water businesses with certain obligations imposed on those businesses under the Statement of Obligations.

Under the *Water Industry Act 1994* (or the licence issued to it under the Act), each regulated water business must comply with a Statement of Obligations. Pursuant to the Statement of Obligations issued to it, a regulated water business must, when requested to do so by the Commission:

- arrange for an audit to be undertaken
- ensure that the audit is conducted by an independent auditor nominated by the business and approved by the Commission and
- ensure that the audit is conducted in accordance with guidelines issued by the Commission.

The audits are an important element of the regulatory framework. They verify that the information collected and reported by regulated businesses is accurate and reliable and provides evidence to customers and other stakeholders that regulatory obligations are being complied with. The audits also benefit regulated businesses by identifying areas for improvement and providing incentives to achieve compliance.

9.2 The Commission's approach to auditing

The framework and approach previously used by the Commission to audit the metropolitan retail businesses was largely based on the approach used by Ofwat to audit UK water businesses, but tailored to meet the smaller size of the Victorian water sector at that time. This broad approach has subsequently formed the basis

for auditing the regulated electricity and gas businesses. The Commission has reviewed the audit arrangements from time to time to ensure that they remain relevant. While the audit framework that applied to metropolitan retailers had generally worked well, the Commission identified opportunities to streamline and clarify the process and approach in order to apply it more efficiently to a larger number of businesses.

To maximise the independence, quality and comparability of the audit findings, the Commission issued a guideline for conducting and reporting the audits. Key elements of the audit guideline are that:

- When requested, the water businesses must nominate an auditor to be approved by the Commission. The Commission established a panel of suitably qualified independent auditors to expedite the nomination process and to ensure that audits are consistently performed. The auditor may then be drawn from the panel or the business may nominate an alternative audit firm that meets the selection criteria.
- the audits are conducted in accordance with an audit scope specified by the Commission (which may include matters related to the Statement of Obligations identified by the Minister for Water) and
- the audit results are graded and reported in accordance with requirements specified in the guideline which are summarised further below.

9.3 Reliability and accuracy of performance data

The compliance grades used to assess regulatory data focus on the reliability of the procedures used to generate the information and the quality or accuracy of the data. The auditors evaluate the reliability and accuracy of the data by reviewing:

- the systems and processes used to generate the data and
- the methods used to extrapolate or estimate data.

A two part confidence grade (eg – B2, DX) is assigned to each performance indicator. The grades measure first the reliability of the data and then the overall data accuracy.

The reliability of data is graded from A to D. The grades correspond to the following:

- A – All data is based on sound information systems and records, and on documented policies, practices and procedures that are consistent with the Commission's information specifications and are fully understood and followed by staff.
- B – Most data conforms to grade A. Data that does not has a minor impact on overall data integrity. For example, a minority of data may be based on information specifications which are significantly, but not substantially different to those published by the Commission, procedures which are not fully understood by staff, minor variations from documented procedures, estimation or extrapolation of data which conforms with Grade A or reliance on unconfirmed reports.

- C – In many cases, but not all, data is based on information specifications which are significantly, but not substantially different from those published by the Commission, procedures which are not fully understood by staff, estimation or extrapolation of data which conforms with grade A or B or reliance on unconfirmed reports.
- D – other data.

The accuracy of the reported data is graded from 1 to 6 and X as follows:

- 1 – accuracy of ± 1 per cent
- 2 – accuracy of ± 5 per cent
- 3 – accuracy of ± 10 per cent
- 4 – accuracy of ± 25 per cent
- 5 – accuracy of ± 50 per cent
- 6 – accuracy of ± 100 per cent
- X – for small samples where accuracy cannot be calculated or the error would be more than 100 per cent.

9.4 Compliances grades for obligations

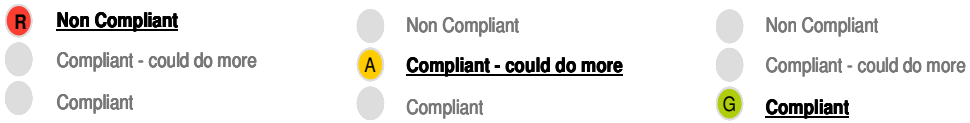
In assessing compliance with specified obligations (such as those set out in the Customer Service Code), the auditors are required to make their assessment using a two step grading system. The system is intended to provide practical and detailed information about how compliance could be achieved or improvements made in respect to businesses meeting their obligations.

First, they must use harvey balls to indicate the existence and quality of existing policies, practices, procedures, systems and training/skills respectively. Where a business is non-compliant or is compliant but there are opportunities for further improvements, the auditor must specify the nature of improvements that could be made.

Policies	Practices	Procedures	Systems	Training/Skills
				

Grade	Description	Action
	Non Compliance	Serious action required.
	Non Compliance	Full revision of all systems, processes etc,
	Non Compliance	Significant revision of systems and processes required.
	Compliant but need improvement	Revision of some systems and processes required.
	Full compliance	No further actions required.

Then the auditor must use a traffic light system to indicate overall compliance taking into account all five areas for which the separate harvey balls have been given.



9.5 Scope and conduct of this year's audits

The audits of rural and urban water businesses were conducted between September and December of 2009. All of the water businesses nominated auditors from the audit panel. The approved auditors were:

- Beca for Melbourne Water and Goulburn Valley Water
- Cardno/Ws Atkins for Central Highlands Water, City West Water, Coliban Water, Gippsland Water, GWMWater, South East Water and Yarra Valley Water
- Deloitte for Barwon Water, East Gippsland Water, Lower Murray Water, North East Water, South Gippsland Water, Wannon Water, Western Water and Westernport Water.

Gippsland Water changed auditor to CARDNO this year from BECA in 2007-08.

The 2009 audit scope covered performance information for 2008-09 submitted by the urban water businesses in accordance with the Commission's performance reporting framework.

No Customer Service Code or statement of obligations clauses were required to be audited in 2009.

A regulated water business must ensure that its board considers the auditor's report as soon as possible after it is received. Within 30 days of receiving the final audit report, the regulated water businesses must provide a response to the Commission that indicates:

- the actions that the regulated water business proposes to take in response to the audit findings and
- specifically where the auditor has identified non compliance, the actions that the regulated water business proposes to take and the timeframe in which it will achieve compliance.

A more detailed discussion of the audit results and actions to be taken in response is provided in the following section.

9.6 Overview of audit results – performance data

As noted above, the reliability and accuracy of each performance indicator was assessed using a two part confidence grade (eg – B2, DX). Generally, the audits suggested that:

- the majority of data reported was accurate and reliable
- 89 per cent of data provided was highly reliable (compared with 97 per cent last year), 89 per cent of the data was accurate to within 5 per cent (compared with 87 per cent last year) and
- there are some performance indicators which by their nature are difficult to measure accurately, such as effluent and biosolids reuse, volume of sewage spilt from emergency relief structures, non-revenue water, greenhouse gas emissions and reduction in nitrogen loads to Port Phillip Bay.

In a number of cases the auditors were able to correct for inaccurate or unreliable data as part of the audit process. As in previous reports, the Commission has adopted these revised figures for the purposes of reporting and comparisons.

For the purposes of this report, the Commission has chosen not to publish information that has been graded lower than C4. This reflects the Commission's view that such information is not sufficiently reliable or accurate.