31 July 2007

Our reference: 03/04/02/17
Your reference

GIPPSLAND WATER

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Mr Sean Crees
Acting Director Regulation Water
Essential Services Commission
Level 2, 35 Spring Street
MELBOURNE 3000

Dear Sean

GIPPSLAND WATER - DRAFT WATER PLAN

Please find attached a copy of Gippsland Water's draft Water Plan. This Plan is a document that largely looks forward, focusing on the outcomes to be delivered for the regulatory period, and the expenditure, for both operational and capital investment purposes, required to deliver those outcomes. Of particular interest to all parties is the impact that these proposed outcomes and expenditures will have on the cost to customers for the supply of water and sewerage services during the regulatory period.

The 2008 Water Price Review process provides for a period of consultation with customers, regulators and the Minister for Water on the Water Plan, including the outcomes that Gippsland Water is seeking to deliver, the cost of those outcomes, and the impact on tariffs for services.

By early October 2007, Gippsland Water will be required to submit a final Water Plan, which ultimately forms the basis for seeking approval from the Essential Services Commission of proposed prices for the regulatory period.

Gippsland Water would welcome your feedback on the draft Water Plan. Comments received before Friday September 14, 2007 will be considered in the development of Gippsland Water's final Water Plan.

Yours sincerely,

John Mitchell
MANAGING DIRECTOR

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2008 WATER PRICE REVIEW

Draft WATER PLAN

"A plan for the five year regulatory period commencing on 1 July 2008, and concluding on 30 June 2013"

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Context

This document is Gippsland Water's draft Water Plan, developed in response to the Essential Services Commission's (ESC) 2008 Water Price Review. Each Victorian water business is required to submit a draft Water Plan to the ESC by 31st July 2007.

This draft is available to the ESC, various regulators, and the general public to promote an open and clear understanding of the issues facing water businesses as they plan ahead for the regulatory period from July 2008 to June 2013.

Gippsland Water will undertake community consultation sessions across the region during a period of consultation which will commence with the release of this draft Water Plan, and by necessity come to a conclusion in mid September 2007.

Each water business will then be required to submit a final Water Plan to the ESC by 8th October 2007. The ESC and Gippsland Water expect that the final plan will take into account the feedback received from regulators and the community during the consultation period.

Common Terms

The use of the term "Water Plan" within the document refers to this draft Water Plan. To avoid confusion, each page of the document is footnoted with the phrase "draft Water Plan". The term "regulatory period" is used to describe the five year period commencing July 2008, and concluding on June 2013. This is the period for which this Water Plan, when finalised, will establish agreed standards, expenditure levels and tariffs.

The use of the term "first Water Plan" within the document refers to the Water Plan currently in place. Similarly, the term "first regulatory period" is used to describe the three year period commencing July 2005, and concluding on June 2008.

The Detail

This draft Water Plan is necessarily detailed to give the reader sufficient understanding of the Gippsland Water business, and the rationale behind the inclusion of capital and operational expenditure in the Water Plan.

The Executive Summary itself has been written as a stand alone document to allow the reader to gain a good understanding of the issues facing Gippsland Water, without the need to reference the more detailed information contained the various chapters of the document.

The document is based on a structure outlined by the ESC, and Gippsland Water has attempted to conform with ESC requirements wherever possible.

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1.0 EXECUTIVE SUMMARY

The 2008 Water Price Review provides water businesses across Victoria with the opportunity to clearly articulate and commit to a set of outcomes and prices to be delivered over the regulatory period. As part of this review process, Gippsland Water is required to submit a Water Plan covering each year of the regulatory period commencing 1 July 2008.

The Water Plan provides a mechanism for businesses to resolve tradeoffs with customers, regulators and the Minister for Water. Therefore it is important that the Water Plan contain sufficient detail about the outcomes that businesses intend to deliver, supporting information and evidence of consultation with customers.

Gippsland Water's Water Plan is a document that largely looks forward, focusing on the outcomes to be delivered for the regulatory period, and the expenditure, for both operational and capital investment purposes, that is needed to deliver those outcomes. Of particular interest to all parties is the impact that these proposed outcomes and expenditures will have on the cost to customers for the supply of water and sewerage services during the regulatory period.

The 2008 Water Price Review process provides for a period of consultation with customers, regulators and the Minister for Water on the Water Plan, including the outcomes that Gippsland Water is seeking to deliver, the cost of those outcomes, and the impact on tariffs for services. By early October 2007, Gippsland Water will be required to submit a final Water Plan, which ultimately forms the basis for seeking approval from the Essential Services Commission of proposed prices for the regulatory period.

Gippsland Water's Water Plan identifies our key business objectives, proposed strategies, main business challenges, risks and proposed prices for the regulatory period. We have created a vision that will provide sustainable, secure and efficient water and wastewater services to our customers. During the development of this Water Plan, we have in particular focused on organisational sustainability from a community, environment, customer and financial perspective in order to ensure that the vision is realised now and into the future. Critical to the successful delivery of these objectives is the financial ability to maintain current product and service standards and to successfully meet ever increasing regulatory, customer and community requirements and expectations.

1.1 OVERVIEW OF REVENUE REQUIREMENT AND ANNUAL PRICE CHANGE

In developing the Water Plan, Gippsland Water has considered a significant range of inputs derived from various sources. Foremost among these inputs are the obligations that are imposed on Gippsland Water by the Victorian Government and a range of regulators. These obligations include:

- A Statement of Obligations issued by the Minster for Water;
- Requirements outlined by the Department of Sustainability and Environment,;
- Various obligations imposed by the Environmental Protection Authority;
- Various obligations imposed by the Department of Human Services:
- Various obligations imposed by the Essential Services Commission;

- Undertakings with the West Gippsland Catchment Management Authority; and
- Undertakings with Sustainability Victoria.

These obligations are significant for several reasons, not the least of which is that they are in most instances mandatory requirements. A number of these obligations are relatively new, and Gippsland Water has been required to include expenditure in these areas for the first time in this Water Plan. While a full discussion of these issues can be found in section 5, the link to an increasing revenue requirement needs to be clearly understood – Victorian Government and regulatory agencies continue to expect higher standards of performance, over a wider range of water and wastewater related issues than ever before. Such requirements can be met by Gippsland Water, but to do so in many instances requires additional resources to ensure that the outcomes sought can be achieved.

Given the current drought, and continued discussion in relation to climate change and climate variability, Gippsland Water's customers would also expect Gippsland Water to seriously review the security of future water supplies, and ensure that projects that secure the supply of water across the region are included in revenue requirements in this Water Plan. Gippsland Water supplies a number of major industries of State and National significance, including power generation, paper manufacture and large dairies. These industries consume more than 70% of the water supplied by Gippsland Water and require a high security of supply. Given Central Gippsland's resource-driven economy and large reserves of coal and timber, future growth of these large water consumers must be catered for, together with consideration for new major industry.

Gippsland Water has recently completed a significant review of the region's water supply security, and has developed a Water Supply Demand Strategy (WSDS) for the region. This WSDS presents a series of actions to sustainably manage and meet the water needs of the region serviced by Gippsland Water over the next 50 years, and was completed with significant consultation from local communities. Gippsland Water's major industrial customers provided 50 year demand projections as a key input to the supply-demand forecast for Gippsland Water's major Moondarra system. These projections include savings from water conservation measures currently being implemented by two of Gippsland Water's major customers.

The WSDS for the Gippsland Water region achieves five key aims:

- Builds on actions identified in the Central Region Sustainable Water Strategy (a Victorian Government strategy released in late 2006 - with input from Gippsland Water);
- Determines the expected available water supply to meet water demand, based on a medium climate change scenario and also a step change reduction in water supplies;
- Forecasts the expected long-term water demand for the Gippsland Water region;
- Identifies the range of potential water supply-demand options and assesses these against economic, environmental and social criteria; and
- Recommends a series of actions to sustainably manage and meet the region's water needs over the next 50 years.

Over the past 10 years, river inflows to Gippsland Water's supply systems have been 21 per cent less than the long term average, with inflows over the past year at a record low. The reduced inflows mean that reliability of water supplies is reduced. A "continued low inflow"

scenario, based on streamflow over the past 10 years, was used to assess Gippsland Water's future water supply. Given the high security of supply required by Gippsland Water's major industrial customers, a "continued low inflow" scenario was adopted for planning purposes. Whether recent low inflows are attributable to climatic variability or a climate step change, Gippsland Water needs to plan short, medium and long term responses assuming continued low inflows. Record low inflows in the past year highlight the potential for future yields even lower than the continued low inflow scenario.

Gippsland Water has included in this Water Plan expenditures required to achieve all WSDS actions identified during the regulatory period, with the exception of those actions required to secure the supply of water to the Moondarra system. This issue is discussed at length in section 1.5.

Further support for the expenditure outlined in this Water Plan was derived from the Victorian Government's Country Towns Water Supply and Sewerage Program that aims to improve water and sewerage services to small towns in regional Victoria. In the Gippsland region, the three towns identified are Loch Sport (water and wastewater services), Coongulla (wastewater service) and Glenmaggie (wastewater service). In developing the revenue requirement for this Water Plan, Gippsland Water has taken into consideration the provision of these services to each town in the regulatory period.

Having considered all of these inputs in the development of this Water Plan, Gippsland Water has detailed in Table 1 an overview of the revenue requirement for Gippsland Water to meet its obligations and deliver the required services over the regulatory period. The revenue requirement consists of several components, namely:

- "Operating expenditure" which represents the expenditure outlined in section 5.2 that Gippsland Water believes should be incurred to ensure the delivery of obligations during this period;
- "Return on assets to 30/6/08" which represents a cost of capital return, based on an agreed weighted average cost of capital value of 5.1%, on pre-existing assets, whether those assets were constructed during the first Water Plan period, or before the commencement of regulation by the Essential Services Commission in 2005/06;
- "Regulatory depreciation of assets to 30/6/08" which represents the costs associated with the use, wear and tear of pre-existing assets;
- "Return on new " which represents a cost of capital return, based on an agreed weighted average cost of capital value of 5.1%, on assets to be constructed during this period, the details of which are outlined in section 5.3; and
- "Regulatory depreciation on new assets" which represents the costs associated with the use, wear and tear of new assets brought into service during this period.

Table 1: **Revenue Requirement**

Revenue requirement detail	SECOND REG PERIOD				
	2009 2008-09	2010 2009-10	2011 2010-11	2012 2011-12	2013 2012-13
Revenue requirement and RAV outputs					
Revenue requirement					
Operating expenditure	51.10	55.39	55.58	56.90	57.16
Return on assets to 30/6/08	16.87	16.44	16.01	15.57	15.14
Regulatory depreciation of assets to 30/6/08	7.81	7.81	7.81	7.81	7.81
Return on new assets	1.40	3.46	4.83	6.84	9.19
Regulatory depreciation of new assets	0.67	1.70	2.44	3.43	4.56
Adjustments from last period	-	-	-	-	-
Benchmark tax liability	-	-	-	-	-
Total revenue requirement	**77.84**	**84.80**	**86.67**	**90.56**	**93.86**

The total revenue requirement increases from a base of $77.8m in 2008/09 to total of $93.9m in 2012/13. This increase of $16.0m from the 2008/09 year stems from a $6.1m increase in operational expenditure over the period, combined with an $11.7m increase resulting from movements in new assets (return on new assets and regulatory depreciation). As outlined in this Water Plan, Gippsland Water will deliver a capital asset program with a gross value of more than $250m during this regulatory period (refer section 1.3).

1.2 OVERVIEW OF KEY OUTCOMES FOR THE PERIOD

Gippsland Water's commitment to providing the highest standard of products and services possible to our customers remains a major driver of our operational strategy. Gippsland Water undertakes a holistic approach towards customer relationship management to ensure we maintain our knowledge of the changing needs and expectations of our customers. Gippsland Water has adopted a planned and phased approach to customer relationship management. Our strategy focuses on the many issues, systems and processes that need to be addressed in order to meet the ever changing needs and expectations of our customers and the environment in which we operate.

We will continue to work closely with our various consultative committees and focus groups in order to honour our commitment to exceeding the service standards outlined. Despite the fact that Gippsland Water serves a large geographical area with many remote communities, we continue to exceed the tight response and restoration of service timeframes set within the Charter.

Gippsland Water has outlined proposed targets for service standards during the regulatory period. Separate tables are provided for Water, Waste and Customer service standards.

Table 2: Proposed Water Standards

KPI No	Key Performance Indicator	Unit of Measure	Water Plan 1 2006/07 Target	Average over past three years	2008/09 Target	2009/10 Target	2010/11 Target	2011/12 Target	2012/13 Target
	Water								
1	Unplanned water supply interruptions	per 100km	55.0	35.8	45.0	45.0	45.0	45.0	45.0
2	Average time taken to attend bursts and leaks (priority 1)	minutes	40.0	47.3	40.0	40.0	40.0	40.0	40.0
3	Average time taken to attend bursts and leaks (priority 2)	minutes	150.0	224.4	150.0	150.0	150.0	150.0	150.0
4	Unplanned water supply interruptions restored within 5 hours	per cent	97.8%	91.8%	97.8%	97.8%	97.8%	97.8%	97.8%
5	Planned water supply interruptions restored within 5 hours	per cent	87%	79.9%	87.0%	87.0%	87.0%	87.0%	87.0%
6	Average unplanned customer minutes off water supply	minutes	8.0	9.2	8.8	8.8	8.8	8.8	8.8
7	Average planned customer minutes off water supply	minutes	65.4	20.6	40.0	40.0	40.0	40.0	40.0
8	Average frequency of unplanned water supply interruptions	number	0.07	0.09	0.09	0.09	0.09	0.09	0.09
9	Average frequency of planned water supply interruptions	number	0.50	0.12	0.50	0.50	0.50	0.50	0.50
10	Average duration of unplanned water supply interruptions	minutes	118.7	98.4	118.7	118.7	118.7	118.7	118.7
11	Average duration of planned water supply interruptions	minutes	130.8	175.2	130.8	130.8	130.8	130.8	130.8
12	Number of customers experiencing more than 5 unplanned water supply interruptions in the yea	number	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	Unaccounted for water	per cent	15.0%	13.1%	14.5%	14.5%	14.3%	14.2%	14.1%

Please note that definitions for all water standards are provided in Appendix 5. NR means "Not recorded".

Table 3: Proposed Waste Service Standards

KPI No	Key Performance Indicator	Unit of Measure	Water Plan 1 2006/07 Target	Average over past three years	2008/09 Target	2009/10 Target	2010/11 Target	2011/12 Target	2012/13 Target
	Sewerage								
14	Sewerage blockages	per 100 km	25.0	26.5	25.0	25.0	25.0	25.0	25.0
15	Average time to attend sewer spills and blockages	minutes	35.0	90.9	35.0	35.0	35.0	35.0	35.0
16	Average time to rectify a sewer blockage	minutes	130.0	105.6	130.0	130.0	130.0	130.0	130.0
17	Spills contained within 5 hours	per cent	98.0%	99.9%	98.0%	98.0%	98.0%	98.0%	98.0%
18	Customers receiving more than 3 sewer blockages in the year	number	0.0	-	0.0	0.0	0.0	0.0	0.0

Please note that definitions for all waste standards are provided in Appendix 5

Table 4: **Proposed Customer Service Standards**

KPI No	Key Performance Indicator	Unit of Measure	Water Plan 1 2006/07 Target	Average over past three years	2008/09 Target	2009/10 Target	2010/11 Target	2011/12 Target	2012/13 Target
	Customer Service								
19	Complaints to EWOV	per 1000 customers	0.70	0.27	0.70	0.70	0.70	0.70	0.70
20	Telephone calls answered within 30 seconds	per cent	80.0%	84.3%	80.0%	80.0%	80.0%	80.0%	80.0%

Please note that definitions for all customer service standards are provided in Appendix 5

Table 5: **Proposed Additional Service Standards**

KPI No	Key Performance Indicator	Unit of Measure	Water Plan 1 2006/07 Target	Average over past three years	2008/09 Target	2009/10 Target	2010/11 Target	2011/12 Target	2012/13 Target
	Additional Service Standards								
21	Average time taken to attend bursts and leaks (priority 3)	minutes	2,300.0	2,614.4	2300.0	2300.0	2300.0	2300.0	2300.0
22	Population receiving water meeting E.coli standards	per cent	100.0%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%
23	Population receiving water meeting Disinfection by-products standards	per cent	100.0%	99.8%	100.0%	100.0%	100.0%	100.0%	100.0%
24	EPA Discharge Quality licence compliance	per cent	100.0%	99.3%	100.0%	100.0%	100.0%	100.0%	100.0%
25	Population receiving water meeting Turbidity standards	per cent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Please note that definitions for all additional service standards are provided in Appendix 5

In summary, Gippsland Water has adopted the following approach when setting proposed targets:

- Where targets agreed with the Essential Services Commission for the first regulatory period have not been met, these targets are proposed for this regulatory period;
- Where targets agreed with the Essential Services Commission for the first regulatory period have been met, and conditions in the foreseeable future will allow for this standard to be maintained, Gippsland Water has proposed reduced targets for this regulatory period; and
- Where targets agreed with the Essential Services Commission for the current regulatory period have been met, but conditions in the foreseeable future will not allow for this standard to be maintained, Gippsland Water has detailed the rationale behind maintaining targets at current levels, or at levels between the actual achievement for the past three years and the initial targets.

A full discussion of each service standard and the reasons behind the adoption of the proposed targets is included in section 4.5 of this Water Plan.

1.3 OVERVIEW OF EXPENDITURE FORECASTS

1.3.1 OPERATIONAL EXPENDITURE

Gippsland Water's forecasts for operating expenditure for each year of the regulatory period are detailed in Table 6. In developing the Water Plan, Gippsland Water has considered a significant range of inputs derived from various sources. Foremost among these inputs are the obligations that are imposed on Gippsland Water by the Victorian Government and a range of regulators.

Table 6: **Operating Expenditure Forecast**

Operating Expenditure forecast		SECOND REG PERIOD				
	2008 2007-08	2009 2008-09	2010 2009-10	2011 2010-11	2012 2011-12	2013 2012-13
Operating Expenditure Summary						
Business as Usual	42.26	50.50	54.78	54.97	56.28	56.54
Licence fees	0.65	0.59	0.62	0.62	0.62	0.62
Total prescribed BAU opex	42.91	51.10	55.39	55.58	56.90	57.16

A review of operating expenditure comparing past performance and requirements for the future will quickly reveal a significant step change in the operating costs for Gippsland Water from the 2008/09 financial year. In total, operating expenditure increases from a current forecast of $42.9m in 2007/08, to $51.1m in 2008/09, a one year increase of $8.2m.

While significant, the increase should not be unexpected. A major component of the increase relates directly to the completion and implementation of the Gippsland Water Factory (which is discussed at length in section 3.2). The Gippsland Water Factory will be an innovative wastewater treatment and recycling system located at Morwell, and the first of its kind in Australia, highlighting Gippsland as a leader in sustainability and innovation.

The project will deliver a range of benefits for the Gippsland region including addressing the odour currently created by the open channel section of the Regional Outfall Sewer. The recycled water will benefit local industry, the environment and the community. The system will treat up to 35 million litres of domestic and industrial wastewater daily. At completion of the first stage of the project, the Gippsland Water Factory will produce around 8 million litres of high quality recycled water each day for use by local industry.

In addition to the Gippsland Water Factory, spending in relation to a number of current obligations will have a significant impact on operating costs. In reviewing operational expenditure proposed for the period, significant expenditure was identified that related to current obligations, and efforts to meet the requirements of these obligations. Of particular note is that in many cases, the expenditure does not form part of the business as usual expenditure from prior periods, but represents expenditure on current obligations that will occur for the first time in this regulatory period.

The operations of Gippsland Water require an interaction with the region's waterways, as our operations extract surface water from our rivers and creeks, groundwater from aquifers, and return treated water in some areas to these rivers and creeks. For the regulatory period, Gippsland Water has included a total of $1.0m in operating expenditure to allow for "River Health" initiatives to support catchment management and groundwater obligations. These obligations are current obligations, but the spending outlined will occur for the first time in this period. Initiatives include:

- Understanding the ecosystem impacts of 17 weirs - $0.3m;
- Development of fish passages (priority sites) - $0.4m;
- Funding of a study into the health of the Tyers River - $0.2m; and
- Funding of a study into potable water yield impact on aquifer health - $0.1m .

Gippsland Water has also identified a number of new requirements in consultation with the Department of Sustainability and Environment, and in relation to the Water Governance Act. Gippsland Water has included a total of $0.4m in operating expenditure for these issues. Again, these are current obligations, but the spending outlined will occur for the first time in this period. Initiatives include:

- Condition surveys on the effects of works on flora and fauna in relation to the New Holland Mouse, and Wellington Mint Bush. The Dutson Downs property contains populations of the endangered New Holland Mouse, and the vulnerable Wellington Mint Bush - $0.2m;
- Development of a Dutson Downs wetlands management strategy. Minor wetlands have been identified on Dutson Downs that have been heavily impacted by past activities - $0.1m; and
- Development of management tools to ensure that waste management, agribusiness and biodiversity management activities, including the development of a GIS based map of the ecological status of land units on the property, to ensure that proposed activities do not interfere with sensitive ecosystems. - $0.1m.

Gippsland Water has also identified a number of new requirements in consultation with the Environmental Protection Authority. Gippsland Water has included a total of $0.6m in operating expenditure for these issues. Again, these are current obligations, but the spending outlined will occur for the first time in this period. Initiatives include:

- Morwell River and Wetlands health survey - $0.2m; and
- Additional sampling and testing in relation to waste water treatment plant "mixing zones" - $0.4m.

Gippsland Water has also identified a number of new, or recently introduced but financially significant requirements, in consultation with the Department of Human Services. Gippsland Water has included a total of $1.2m in operating expenditure for these issues. Again, these are current obligations. Initiatives include:

- Development of risk management plans / CRC eWater project - $0.2m; and
- Ongoing provision of fluoridation - $1.0m.

It should be noted that the costs of fluoridation were incurred for the first time during the 2005/06 financial year, but for comparative purposes, these costs will only be evident for the first time in a full financial year, from 2006/07.

Gippsland Water has responsibility for several dams in the region, including the major storage facility located at Moondarra, and several other strategically located storage facilities that support the provision of water to industry and residential customers. Gippsland Water is obligated to ensure that dam safety at these facilities is in compliance with ANCOLD guidelines. Gippsland Water has included a total of $0.8 m in operating expenditure for these issues. Again, these are current obligations. Initiatives include:

- Reviews of Dam safety compliance and seismic studies - $0.2m, and
- Desktop Design Review - $0.6m.

While on an individual basis, none of the expenditure outlined in relation to new spending on current obligations is significant, the combined value of this expenditure is $4.0m in total, or an average of $0.8m per annum in Gippsland Water's operational expenditure for the period.

During the development of operational expenditure requirements for this Water Plan, Gippsland Water has identified several issues, which while part of "business as usual" expenditure, were considered to be significantly in excess of normal operational requirements. These increases in expenditure stem from changes in circumstances, which are outlined in further detail below.

Gippsland Water has undertaken a condition assessment review of these lagoons, which has identified a need for a planned approach to lagoon desludging requirements, rather than the ad-hoc approach that has been in operation previously. While a considerable step forward in terms of the management of this activity, the recognition of the need to plan more professionally in this area has seen a significant increase in costs associated with lagoon desludging requirements. The impact of this on operational expenditure during this regulatory period is significant. Gippsland Water has included a total of $0.5m in operating expenditure for this issue.

Gippsland Water has identified a significant increase in relation to the treatment of biosolids. The main drivers for this are increased work in relation to the handling of wastes removed from water and waste treatment processes, and costs attributable to the handling of wastes from the Gippsland Water Factory.

Gippsland Water has concerns in relation to the cost of electricity, and the significant increases that are currently being flagged by the electricity industry. Advice received by Gippsland Water has led to the inclusion of a 20% increase in the cost of electricity from the 2009/10 year, followed by an additional 5% increase in 2011/12 year. These increases add a combined total of $1.3m to operating costs during this period, which are accounted for as follows:

- Water Factory impact - $0.8m; and
- Other business impact - $0.5m.

Gippsland Water has identified significant issues with the creation of easements across the region. Funding totalling $1.1m has been provided over five years of the regulatory period, to allow for the following requirements:

- Surveying and creation of easements, and valuations - $0.5m; and
- legal expenses and easement compensation - $0.6m.

While a full discussion in relation to operational expenditure is included in this Water Plan in section 5.2, Table 7 summarises the major contributors to increases in operating expenditure across the period.

Table 7: **Operating Expenditure – major contributors to increases across the regulatory period**

		SECOND REG PERIOD				
		2009	2010	2011	2012	2013
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Total Operating Expendiure	42.91	51.10	55.39	55.58	56.90	57.16
Movement from previous year		8.19	4.30	0.19	1.32	0.26
Major Factors						
GWF Stg 1		3.40	3.50	0.40	0.40	-
Maintenance/ Contractors		1.50	-	-	-	-
Environment		0.60	-	-	-	-
Biosolids		0.40	-	-	-	-
Dam Safety		0.20	-	-	-	-
Labour		-	0.30	0.45	0.40	0.40
Land Services		0.20	-	-	-	-
Energy		-	0.40	-	-	-
Minor Maintenance		0.34	-	-	-	-

1.3.2 CAPITAL EXPENDITURE

In developing the capital plan for this period, Gippsland Water has recognised the outputs of several long term reviews that have determined a need for capital investment in the region. In particular, Gippsland Water has looked to ensure that this capital plan is consistent with the actions outlined by the Victorian Government in the Central Region Sustainable Water Strategy (CRSWS), which was released in November 2006. Expenditure of note in this area relates to the Gippsland Water Factory, and the further review of water supply projects to augment the Latrobe system.

In addition, Gippsland Water has recently completed a Water Supply Demand Strategy (WSDS) for the region. This WSDS is a 50 year forward look at water supply systems, and the demand supply balance for these systems, across the region. Working from the platform provided by the CRSWS, the WSDS detailed a number of actions, including timelines for the implementation of these actions that were required to be undertaken to ensure security of supply into the future.

Further support for the expenditure outlined was derived from the Victorian Government's Country Towns Water Supply and Sewerage Program that aims to improve water and sewerage services to small towns in regional Victoria. In particular, the objectives of the program were to improve the quality of water and sewerage services in country towns currently experiencing environmental and public health impacts. Several towns in the region were identified as priority

towns under the program. The expenditure related to this program features clearly in the list of key drivers outlined in section 5.3.2.

Gippsland Water has ongoing programs for the addition and renewal of water reticulation and waste reticulation systems. Asset renewal includes replacing or rehabilitating deteriorated assets to return them to a condition whereby they can deliver their required level of service. This expenditure is significant, and is supported by detailed reviews of asset condition and robust forward planning. Planning takes into consideration both proposals for regional development that demand additional works, and risk analysis related to condition and failure predictions for existing infrastructure renewals.

Table 8: Capital Expenditure Forecast

Capital Expenditure forecast
Gippsland Water

	SECOND REG PERIOD				
	2009 2008-09	2010 2009-10	2011 2010-11	2012 2011-12	2013 2012-13
Capital Expenditure Summary					
Water	17.71	14.32	18.88	20.82	26.32
Sewerage	39.23	17.93	23.58	36.07	36.42
Bulk water	-	-	-	-	-
Recycled water	-	-	-	-	-
Rural water	-	-	-	-	-
Total GROSS prescribed BAU capex	56.93	32.26	42.45	56.89	62.74
Government contributions	-	0.50	8.00	0.50	-
Customer contributions	1.37	4.07	4.29	1.91	16.92
Total Contributions	1.37	4.57	12.29	2.41	16.92
Total NET prescribed BAU capex	55.56	27.69	30.17	54.47	45.82

Details of the more significant projects or programs included in this forecast (but excluding prior period expenditure) are as follows:

- Loch Sport Servicing Project - $45.0m, expected completion date 2012/13;
- Coongulla Waste System Project - $14.3m, expected completion date 2012/13; and Glenmaggie Waste System Project - $6.2m, expected completion date 2011/12;
- Sewer Pump Station Rehabilitation and Improvement Program - $10.0m;
- Water Reticulation System Renewals Program - $10.5m;
- Sewer Reticulation System Renewals Program - $6.0m;
- Moe Groundwater Project - $8.0m, expected completion date 2012/13;
- Warragul – Moe Interconnection Project - $8.0m, expected completion date 2013/14;
- Shared Assets (regional development) - $6.9m;
- Gippsland Water Factory: Micro Hydro / Bio Gas Projects - $4.3m, expected completion date 2008/09; and
- Gippsland Water Factory: Amenities Facility - $4.9m, expected completion date 2008/09.

While the projects or programs listed are the top ten projects in terms of capital investment, and will be of significant interest to the community, some additional capital projects, while less significant in terms of the level of expenditure are equally significant to small local communities. Projects that Gippsland Water considers are of this nature, and will be completed during the period include:

- Boolarra water supply augmentation – a project to connect the Boolarra township to the Moondarra water supply system, which currently ceases at Yinnar ($2.2m);
- Drouin Wastewater Treatment upgrade ($3.4m);
- Mirboo North – Groundwater augmentation ($1.7m);
- Sale Water Treatment Plant upgrade ($3.7m);
- Seaspray – Raw Water Storage Basin (0.9m);
- Thorpdale – Groundwater augmentation ($0.7m); and
- Warragul – Groundwater augmentation (commencement) ($1.5m).

A full discussion in relation to capital expenditure is included in this Water Plan in section 5.3.

1.4 OVERVIEW OF PROPOSED TARIFF STRUCTURES

Gippsland Water has reviewed the existing tariff structure, and has determined that no changes will be made in the proposed tariff structure contained in this Water Plan.

Gippsland Water has consulted with customer focus groups on a range of issues during the preparation of this Water Plan, including an inclining block tariff structure, and a residential volumetric waste water charge.

Focus group participants were in favour of introducing inclining block tariffs providing that larger families were not disadvantaged. The positives of inclining block tariffs were identified as encouraging water savings/recycling, making people appreciate the value of water and penalising water wasters. Providing the introduction is "revenue neutral" to Gippsland Water, appropriate usage and inclining blocks should be designed to suit as many customers as possible, so that fewer customers are disadvantaged should the new tariff system be introduced. Larger families were thought to be disadvantaged by an inclining block tariff.

A two part tariff for waste water, with a fixed annual charge and a variable charge based on the amount of waste water discharged from the home, was more difficult for focus group members to comprehend and therefore customers indicated a preference to remain with the fixed annual charge for waste water. Participants thought the only fair way of measuring water discharged from the home was to install meters. Basing the amount of waste water leaving the home on a percentage of the water entering the home was not considered to be accurate because of the amount of grey water used outside the home and the different (aged) waste water systems people had installed.

The focus groups realised that the positives of a variable waste water charge were to encourage people to reuse water, and by using less water initially, less water would leave their homes, overall costs would be reduced and water saved. However, the method for actually measuring and charging for the waste water was unclear to the customers. Larger families were thought to be disadvantaged by a volumetric waste water charge. It was felt that both inclining block

tariffs and a variable waste water tariff could not be introduced together as the expected increases in invoicing costs would also disadvantage limited income families.

Given this support from the focus groups, Gippsland Water included a series of questions on inclining block tariffs in a recently completed customer satisfaction survey. While results from this survey are yet to be formalised, initial feedback from the survey, which was conducted by phone with 375 Gippsland Water customers, provides a far less conclusive picture. 44% of the participants surveyed preferred an inclining block tariff structure, while 38% preferred the current tariff structure. Significantly, 18% of the participants were undecided.

Gippsland Water now proposes to conduct a large scale consultation process which will target all customers, to better understand the support within the customer base for an inclining block tariff structure. Gippsland Water intends to undertake this consultation during the period to early October 2007, and would expect that any findings could be identified and considered with the submission of its final Water Plan.

In this Water Plan, Gippsland Water proposes to adopt a uniform tariff increase across all water and waste water charges during each year of the regulatory period. In other words, all tariffs in a particular year will increase by the same percentage in that year. In determining the annual increase for each year of the regulatory period, Gippsland Water has reviewed the impacts of applying several different options which all recover the revenue requirement over the regulatory period, but have different impacts on customers:

- A "smoothed" approach, in which the increase is the same for each year of the regulatory period. This is a simple approach which does not reflect the timing of projects and expenditure across the period, and would require tariffs at the end of the regulatory period to be raised to significantly elevated levels when compared to other options;
- An "as revenue required" approach, in which tariff increases move in line with revenue requirements. This approach mirrors the timing of major expenditures, but would require a substantial tariff increase in the first year of the regulatory period, compared with tariffs for 2007/08, before reducing to small increases each year for the remainder of the regulatory period; and
- A "moderated" approach, which aims to recover the total revenue requirement during the regulatory period, while attempting to address the issues raised in the other options. This moderated approach reduces the substantial tariff increase in year one by spreading the impact over the first two years, with modest increases for the remaining three years of the regulatory period. This approach also reduces the tariff at the end of the regulatory period, when compared to the "smoothed" approach.

After consideration of these approaches, Gippsland Water has adopted the "moderated" approach in this Water Plan. Table 9 illustrates the impact of the "moderated" approach on a number of key water and wastewater tariffs, and also provides a comparison to tariffs for 2007/08, which were approved by the Essential Services Commission in May 2007.

Table 9: Key Water and Wastewater Tariffs– Moderated Approach

$Jan 07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Water						
Service Availability Charge - 20mm	81.56	100.07	122.77	135.05	148.55	163.41
Volumetric Charge - per Kl	0.9432	1.1572	1.4198	1.5617	1.7179	1.8897
Wastewater						
Service Availability Charge - connected	383.62	470.66	577.45	635.20	698.72	768.59

Gippsland Water has a significant number of tariffs in addition to the key water and wastewater tariffs detailed above. Section 7.2 of this Water Plan provides details of each tariff, and the proposed tariff movement during the regulatory period. These tariffs include those applicable in areas such as trade waste, land development and property connection fees.

1.5 DEALING WITH UNCERTAINTY

In the development of this Water Plan, Gippsland Water has been acutely aware of the significant uncertainty surrounding water supply shortfalls. This is in turn reflected in the requirement for a variety of short and long term augmentation options to deliver security of supply across the region, depending on the selection of either a "median climate change" scenario, or a "continued low inflows" scenario.

In electing to base this Water Plan on the "continued low inflows" scenario, Gippsland Water has ensured consistency with its recently released Water Supply Demand Strategy, and the Victorian Government's Central Region Sustainable Water Strategy which also modelled the "continued low inflows" scenario.

The level of uncertainty with regard to security of supply is of such significance, and the potential levels of expenditure so large, that its handling in this Water Plan warrants serious discussion and a high level of understanding by all concerned.

Gippsland Water has adopted the approach that it is preferable to identify projects with significant levels of uncertainly and significant cost, and raise awareness of the issues surrounding these projects, without including these projects in proposed operating and capital expenditure plans. To do otherwise would generate a substantial revenue requirement, and a significant impact on tariff outcomes, which may not be justifiable in the longer term. Once full consideration can be given to all the issues, the selection from what are now a series of options will identify a preferred action.

While Gippsland Water has included several water supply augmentation projects, based on actions contained within both the Victorian Government's Central Region Sustainable Water Strategy, and the Water Supply Demand Strategy (refer section 5.3.2), the major augmentation issue surrounding the Latrobe System has been excluded from operating and capital expenditure presented in this Plan.

Currently under development, the Water Security Investment Strategy for the Latrobe System is a long-term strategic response by Gippsland Water to the effects of reduced water yields in the Latrobe system.

The strategic analysis within the Water Security Investment Strategy for the Latrobe System identified supply augmentation as the strategy most likely to provide adequate security of supply to Gippsland Water, followed by Re-use and Recycling. External specialist consulting engineers were engaged to assist to further scope and cost the various projects within the two identified strategic options. These projects were:

Supply Augmentation

- Seek a permanent bulk water entitlement (BWE) increase from Blue Rock Lake ("BWE increase");
- Augmentation of the Moondarra Dam Wall ("Dam Wall extension"); and
- Access and transfer groundwater from Moe to the Latrobe System ("groundwater augmentation").

Re-use and Recycle

- Treat and reuse wastewater currently discharged via the ROS ("Gippsland Water Factory Stage 2");
- Treat and reuse wastewater from the Saline Water Outfall Pipeline (SWOP) ("Desalination of SWOP"); and
- Treat and reuse wastewater from Australian Paper ("Desalinate AP waste stream").

Work continues on the Water Security Investment Strategy for the Latrobe System, in particular around determining the cost of the projects listed, and the evaluation of these options using a triple bottom line approach, to account for social and environmental considerations, in addition to issues of a financial nature. In work undertaken to date, Gippsland Water has determined that the cost of a Latrobe System Investment will be significant. Estimates currently range from $20m to $150m in capital expenditure requirements alone. A review of potential operating costs has determined that an additional $7m of operating expenditure would be required annually, depending on the option selected.

At their highest levels, these expenditures represent:

- An additional 58% on capital expenditure included within this Water Plan; and
- An additional 12% on operational expenditure included within this Water Plan.

As outlined, in this Plan Gippsland Water has adopted the approach that it is preferable to identify projects with significant levels of uncertainly and significant cost, and raise awareness of the issues surrounding these projects, without including these projects in proposed operating and capital expenditure plans. To do otherwise would generate a substantial revenue requirement, and a significant impact on tariff outcomes, which may not be justifiable in the longer term. Once full consideration can be given to all the issues, the selection from what are now a series of options will identify a preferred action.

Gippsland Water continues to work closely with the Victorian Government to ensure that issues surrounding the Latrobe system are clearly understood, and can be accounted for in the plans for long term water management across the state.

1.6 OVERVIEW OF CUSTOMER CONSULTATION

Gippsland Water has established three customer committees that serve as a consultation point between the organisation, its community and its customers. These three groups meet quarterly and address the service delivery aspects of Gippsland Water's operations. There is an Environment and Customer Consultative Committee, the Dutson Downs Advisory Committee and the Coastal Advisory Committee.

Gippsland Water also undertakes various consultation programs for special projects including the Customer Charter, this Water Plan, the recently completed Water Supply Demand Strategy and the proposed amendment to the Merrimans Creek bulk water entitlement.

Gippsland Water conducts an independently facilitated customer satisfaction survey every 18 months with its residential customers. This survey contains question areas that optimise data capture opportunities in line with Water Plan commitments. Gippsland Water then creates an implementation plan for the results of each survey. This plan takes the key areas for improvement that were identified in the survey results and has actions designed to address these. These results are also shared with Gippsland Water's Environment and Customer Consultative Committee which then makes recommendations for addressing these.

The latest customer survey was conducted during January 2006, when Gippsland Water commissioned Nexus Research to conduct a telephone customer survey to assess satisfaction levels.

The key areas the survey investigated included:

- Awareness of services provided by Gippsland Water;
- Satisfaction with water quality;
- Behaviour with drinking water;
- Satisfaction with wastewater services;
- Reactions to planned and unplanned interruptions;
- Satisfaction when contacting Gippsland Water;
- Satisfaction with Gippsland Water's environmental management;
- Satisfaction with billing and customer service;
- Awareness of public relations and educational materials;
- Overall satisfaction with Gippsland Water; and
- Comparison of Gippsland Water services with other providers.

In relation to overall satisfaction with Gippsland Water, respondents were asked to take everything into account and rate on a scale from '0' (extremely dissatisfied) to '10' (extremely satisfied) how satisfied they were with the way Gippsland Water meets all their needs. The average score generated by the total sample was 8.2, with 87% of respondents rating Gippsland Water a score of 7 or higher.

Gippsland Water seeks a combination of quantitative and qualitative research conducted by an independent research company, via in-depth interviews, with Gippsland Water's twelve major clients. This survey is conducted annually. The findings and actions arising from these annual surveys are included within the operating expenditure estimates of this Water Plan. The 2006 survey concluded that these major clients were generally happy and satisfied overall with the products and services received from Gippsland Water in the last 12 months, with few issues being identified. Major clients felt they worked well together with Gippsland Water, there was open communication, Gippsland Water were "good listeners" and regularly made contact or provided updates on information.

The level of satisfaction with the various aspects of service provided by Gippsland Water is high. The average overall level of satisfaction during 2006 was 8.1 (out of a maximum of 10), similar to the 8.2 recorded previously.

Gippsland Water holds community briefings regularly for several key projects. The most significant project currently is the Gippsland Water Factory project. There have been a significant number of community information sessions held across Gippsland to date for the general public. There have also been over 20 presentations and briefings given to individual groups.

Community reference groups have been established for two key sewerage scheme projects (Coongulla and Loch Sport) and separate information sessions and meetings have been held for the Seaspray Sewerage Scheme which is currently being constructed. In addition to face-to-face community briefings, community information update newsletters are sent to each resident in the declared sewerage district to keep them informed about the project's progression.

As part of the development of this Water Plan, community consultation was required to engage Gippsland Water's customers and stakeholders to ensure that their expectations of Gippsland Water were understood. The consultation process was used as a vehicle for obtaining input through a two-way feedback process that would complement Gippsland Water's decision-making. Three focus groups were developed in conjunction with Nexus Research to support this community consultation process.

Focus groups were established across Gippsland Water's service areas in the eastern, central and western areas, and aimed to cover a broad demographic spread including pensioners and low income earners. Participants received a context-setting presentation about the key areas featured in the Water Plan, and were encouraged to ask questions about the information provided. Participants were able to take the information with them to formulate opinions and feedback for later discussion.

The participants were invited to discuss their understanding and perceptions of the proposed options for the Water Plan. Discussion and feedback was sought on four areas that Gippsland Water identified as of particular interest, given changing attitudes to water within the community. These four areas were:

- The introduction of inclining block tariffs for residential water consumption;
- The introduction of a volumetric waste water tariff for residential customers;
- Comment on service standards, including missing/new standards; and
- The introduction of guaranteed service levels.

Feedback from focus groups almost unanimously supported the introduction of both an inclining block tariff structure, and the introduction of guaranteed service levels as these measures lend support to the conservation of water, and ensure that Gippsland Water strives to achieve service standards.

As noted in section 1.4, given this support from the focus groups, Gippsland Water included a series of questions on inclining block tariffs in a recently completed customer satisfaction survey. Gippsland Water now proposes to conduct a large scale consultation process which will target all customers, to better understand the support within the customer base for an inclining block tariff structure. Gippsland Water intends to undertake this consultation during the period to early October 2007, and would expect that any findings could be identified and considered with the submission of its final Water Plan.

It should be noted that in undertaking this survey, Gippsland Water is not an advocate for either the inclining block tariff structure, or the introduction of guaranteed service levels. Gippsland Water has specific concerns in relation to inclining block tariffs and the impact such a tariff structure would have on large families, and low income families. Gippsland Water has not seen any evidence of inclining block tariffs significantly reducing water consumption, and is concerned that as a significant portion of consumption (approximately 80%) is for internal use, and is thus inelastic in nature, it will not significantly alter with the introduction of an inclining block tariff structure.

While the rationale for guaranteed service levels may seem on the surface too be a way of keeping Gippsland Water efficient and honest in meeting the standards set, Gippsland Water will strive to achieve service standards regardless of any rebate scheme. Another view in this debate is that any rebate would only be minor in value, and as such Gippsland Water would not be penalised substantially if standards were not met, and may in fact be happy to pay the occasional rebate, rather than address the underlying issue.

Should the findings of this survey align with the focus group support for these initiatives, Gippsland Water will need to determine how to move forward, and establish a timeframe for implementation. Given the nature of the changes required to allow computerised billing systems utilise inclining block tariffs and guaranteed service levels, Gippsland Water will need to ensure a thorough development and testing regime. Current thinking is that a 2009/10 implementation would be achievable, with implementation unlikely any earlier.

2.0 GIPPSLAND WATER – AN OVERVIEW

2.1 OUR PURPOSE

To manage the resources in our care in a manner that ensures Gippsland's sustainability and secures social, environmental and economic benefits to our customers, our stakeholders and region.

2.2 OUR VISION

In an increasingly challenging operating environment, Gippsland Water will strive for best practice sustainable water and waste management within central Gippsland.

2.3 OUR VALUES

Our strategic and operational decisions must reflect our attitude to the community, our products and service delivery, our business and to each other.

Our values guide us as we strive to fulfil our purpose and vision. We value and are committed to:

- open, ethical and fair conduct;
- community engagement and trust;
- safety as our first priority in going about our business;
- teamwork;
- employee knowledge and capability;
- innovative solutions;
- sustainability; and
- the highest levels of customer satisfaction.

2.4 CENTRAL GIPPLSLAND DEMOGRAPHICS

The local government areas of Baw Baw, Latrobe, Wellington and South Gippsland provide a region unique in Australia. The linear development of the major towns of these municipalities along the major transport routes, coupled with some of the most scenic country in the State, allows a comfortable conjunction of town and country in a fashion that few other areas can achieve.

Over recent years, Baw Baw Shire has witnessed significant growth in new property connections, in particular residential developments in a rural environment within close proximity to Melbourne. Latrobe City has also recorded growth in residential housing development, in particular the township of Traralgon, which has also experienced significant growth in new property connections.

Central Gippsland is the State's powerhouse, providing 85% of Victoria's electricity and home to Australia's largest paper making complex, Australian Paper's Maryvale Mill. To the east, the Wellington Shire is home to oil and gas production, a major RAAF base and significant

agricultural pursuits. While in the west, the Baw Baw Shire boasts some of the richest agricultural land in Victoria and in recent years there has been significant development in value adding manufacturing.

These industries together provide the means to support a thriving community of over 131,000 people who enjoy freeway access from Melbourne to Traralgon, the scenery of the Gippsland Lakes, the Ninety Mile Beach and Wilsons Promontory, and in winter, the snowfields of Mt Baw Baw, all within a two hour drive.

Looking to the future, the region is poised to attract new major industries, and targeted investment sectors such as, renewable energy, a heavy industry park, horticulture and hothouse production, value added dairy manufacture, intensive animal production and aquaculture production. These opportunities are within the timeframe of this Water Plan and are considerations for our long range asset planning and water supply strategy.

2.5 GIPPSLAND WATER IN PROFILE

2.5.1 GEOGRAPHY AND CUSTOMER MIX

Gippsland Water supplies water, and collects and treats waste for approximately twenty industries, some of which are prominent in the energy, paper, food, gas and oil sectors. Gippsland Water provides reticulated water and wastewater services to over 60,000 customers living in the region from Drouin in the west, to Stratford in the east and from Mirboo North in the south, to Rawson and Briagolong in the north (Figure 1). It administers some 60,000 water assessments and 51,000 wastewater assessments.

Figure 1: The Gippsland region

The region's water supply is derived from the Latrobe and Thomson Basins that contain the major arteries of the Latrobe, Thomson and Macalister rivers. A number of other tributaries comprise the full river system of the region, all of which flow into the Gippsland Lakes via Lake Wellington. These rivers provide the source water for Melbourne and major industry, irrigation, as well as commercial and domestic customers within Gippsland.

The Victorian Government's White Paper confirms that the Latrobe, Thomson and Macalister rivers are fully allocated and stressed, and a new cap is to be put in place through the negotiation of an Environmental Water Reserve. Global climatic change is altering traditional rainfall patterns and the region has recently suffered from ten years of reduced inflow in its catchments.

2.5.2 MARKET SEGMENTATION

Like all of the metropolitan water businesses and other Regional Urban Water Authorities (RUWA), Gippsland Water is active in the traditional markets of our industry. However, Gippsland Water also services several related markets where it has extracted a sustainable competitive advantage from the synergy of its operations. These markets include:

Traditional	**Specialist**
Domestic	Agriculture
Non-domestic	Energy generation
Commercial	Food processing
Government	Oil and gas
	Pulp and paper

2.5.3 PRODUCT DIFFERENTATION

Gippsland Water derives its revenue from eleven product lines, which are offered to these markets with attractive pricing. These products include:

Water	**Prescribed waste (unregulated)**
Raw water	Liquid streams (ex dairy)
Treated (potable) water	Solid streams (prescribed)
Wastewater	**Agriculture (unregulated)**
Domestic effluent	Beef cattle
Trade waste effluent	Soft & hardwood timber plantations
Saline liquid	Agistment
	Feed fodder and grains

2.5.4 INDUSTRIES OF STATE AND NATIONAL SIGNIFICANCE

Unique to Gippsland Water is the customer profile that the authority services. Despite providing services to 60,000 (water) and 51,000 (wastewater) customers, in excess of 70% of the water supplied, and 75% of wastewater collected, is from six customers. Revenue from these six

customers for these services represents approximately 30% of Gippsland Water's the revenue base. In contrast, a typical Victorian urban water authority supplies in excess of 50% of the water supplied to residential customers.

These six customers are of both State and National importance, and are detailed in Table 10.

Table 10: Customers of State and National Importance

	Water Source – Moondarra Reservoir	Water Source – Moe Water Supply System	Waste to Regional Outfall Sewer	Waste to Saline Wastewater Outfall Pipeline
Australian Paper	Yes	No	Yes	No
International Power Hazelwood	Yes	No	No	Yes
Energy Brix Australia	Yes	No	No	Yes
Yallourn Energy	No	Yes	No	Yes
Loy Yang Power	Yes	No	No	Yes
IP – Loy Yang B	Yes	No	No	Yes

A dedicated dam and water and wastewater reticulation networks culminating in two EPA licensed ocean outfalls service these six customers. In addition, Gippsland Water also supplies a dedicated saline wastewater pipeline service to the Esso BHP Billiton Oil and Gas Plant at Longford. Saline wastewater from this plant is treated and discharged via the Delray Beach Outfall Pipeline.

As an example of the scale of these customers, the largest metropolitan customer ranks behind Gippsland Water's third largest customer in annual water consumption.

This asymmetric risk means that the ongoing operation, protection, management, and development of water, wastewater, and prescribed waste assets to these industries is a mission critical task for Gippsland Water.

2.6 OUR OPERATING ENVIRONMENT

2.6.1 THE CURRENT NATURAL AND BUILT ENVIRONMENT

Water sustains life and is a prerequisite for a sustainable region. Ultimately, if our rivers, wetlands, estuaries, bays and floodplains deteriorate – so will our economy and society. The path towards sustainable water and natural resource management will demand improved

management and stewardship practices, our task is to accept this challenge and achieve the desired result through innovation, leadership and collaboration with all water agencies.

Our stakeholders and the wider community expect that we will sustain our natural resources in the interests of future generations, and accordingly is seeking greater transparency and accountability in the stewardship of natural resources. Gippsland Water is a key player in the management of natural resources within the region. We acknowledge that the challenges for organisations and individuals involved in sustainable natural resource management are substantial and increasing in complexity.

Key drivers for Gippsland Water are:

- Reliable and safe urban water and wastewater services as demanded by customers and stakeholders;
- Whole-of-catchment approach to the management of our natural capital;
- Healthy rivers, floodplains, estuaries and catchments, capable of delivering a wide range of water services in a sustainable way;
- The Victorian Government's demonstrated commitment to ecologically sustainable development, public accountability, economic prosperity and social justice;
- National Competition Policy reforms and the extension of the regulatory framework to include the Essential Services Commission (ESC), and the Energy and Water Ombudsman (EWOV);
- Pricing for sustainability of our water resources and waste management practices; and
- Innovation and collaboration between resource managers and resource users.

2.6.2 THE REGULATORY ENVIRONMENT

2.6.2.1 ECONOMIC REGULATION

Independent economic regulation poses a number of challenges for Gippsland Water, in ensuring that the approach delivers the desired outcomes. These challenges include:

- Recognising that the legislative and policy arrangements affecting businesses within the water sector are different and complex, and that independent economic regulation is occurring concurrently with significant policy development and change;
- Ensuring that the regulatory approach strikes an appropriate balance between customers needs, financial viability of the business and long term sustainability of the environment;
- Ensuring that the regulatory approach recognises and reflects the diverse nature of the operating environments and services provided by Gippsland Water; and
- The need to consult and make decisions on key issues within relatively tight timeframes, including the need to establish new price arrangements to apply from 1 July 2008.

Gippsland Water recognises that the implementation of economic regulation is a key strategic and commercial issue. Under the regulatory regime, the organisation will be 'locked into' a price path for five years from 1 July 2008, with limited potential for price adjustments or cost pass throughs. This means that Gippsland Water will be required to carry both cost and revenue risk during the time of the price determination.

2.6.2.2 FINALISATION OF THE WATER POLICY FRAMEWORK

In June 2004, the Victorian Government released a groundbreaking strategy aimed at creating smarter ways to use and manage Victoria's water supplies over the next fifty years. Securing Our Water Future Together, also known as the White Paper, recognised that with eight years of below average rainfall, growing demand for water and waterways in need of repair, we need new and better ways to secure water for the state's future.

The White Paper looked at innovative ways to do more with less water and provided:

- A contemporary and comprehensive water allocation system, to ensure Victorians get their fair share of water;
- Improved river health and aquifers;
- Smarter use of irrigation water;
- Smarter use of urban water in our cities and towns;
- Smarter pricing for sustainability; and
- An innovative and accountable water sector.

The development of the Central Region Sustainable Water Strategy and Gippsland Water's own water Supply Demand Strategy have more recently embraced these themes, with significant action designed to deliver on these issues.

2.6.2.3 AUSTRALIAN DRINKING WATER QUALITY FRAMEWORK

The *Safe Drinking Water Act 2003* (SDWA) became effective from 1 July 2004. The SDWA aims to provide a comprehensive, state wide regulatory framework to protect and improve the quality of drinking water for Victorian consumers. The SDWA embraces the multiple barrier approach to drinking water quality management that requires the identification and management of risks to water quality from catchment to tap.

The Act is designed to require water suppliers including Gippsland Water to develop and implement an integrated risk management framework for drinking water quality, comply with standards for water quality, communicate effectively with all stakeholders and publicly disclose relevant water quality information.

2.6.2.4 ENVIRONMENTAL REGULATION

Traditionally, environmental regulation relating specifically to water industry activities has focussed on the impacts of wastewater treatment and disposal to the external environment. With time, regulation has evolved to ensure that a water authority consider the impacts of its water demand on the ecosystem health of waterways, impacts of land management activities on biodiversity of ecosystems, and impacts of wastes generated in its provision of services. Specifically, the Water Act 1989 was amended in 2006 to require a water authority to apply sustainability principles when providing services to the community.

In addition to the environmental impacts of its own activities, Gippsland Water must also be mindful of the environmental impacts of others on its operations. The Safe Drinking Water Act

2003 requires that Gippsland Water include in its drinking water quality risk management plans, the risks to water quality due to the activities of others within potable water catchments. In most instances, Gippsland Water has little or no management controls over the risk activities identified, and is reliant on the regulatory and management activities of a range of agencies to ensure that the risks are mitigated.

3.0 OUTCOMES FOR FIRST REGULATORY PERIOD

3.1 SERVICE STANDARDS AND OTHER OUTCOMES

Our commitment to providing the highest standard of products and services possible to our customers remains a major driver of our operational strategy. Gippsland Water undertakes a holistic approach towards customer relationship management to ensure we maintain our knowledge of the changing needs and expectations of our customers.

Gippsland Water has adopted a planned and phased approach to customer relationship management. Our strategy focuses on the many issues, systems and processes that need to be addressed in order to meet the ever changing needs and expectations of our customers and the environment in which we operate.

We continue to work closely with our various consultative committees and focus groups in order to honour our commitment to exceeding the service standards outlined in our Customer Charter. Despite the fact that Gippsland Water serves a large geographical area with many remote communities, we continue to exceed the tight response and restoration of service timeframes set within the Charter.

3.1.1 SERVICE STANDARDS – DEFINITIONS

To assist in understanding the service standards outlined, Gippsland Water has provided the agreed definitions for each of the service standards used in this Water Plan. These are included for reference purposes in Appendix 5.

3.1.2 SERVICE STANDARDS – HISTORICAL PERFORMANCE COMPARED TO TARGETS

Table 11 details Gippsland Water's progress in delivery of the outcomes it committed to in the first regulatory period. Where service outcomes have not been delivered during the 2005/06 financial year, explanations are provided following the table. Details for the yet to be completed 2006/07 financial year are shown for information purposes. No comment is made in relation to performance during 2006/07 unless a significant departure from expectations is evident.

Table 11: Water Service Standards

KPI No	Key Performance Indicator	Unit of Measure	Performance Actual 2005/06	Water Plan 1 2005/06 Target	Average over past three years	Year to Date Performance as at 30 April 2007	Water Plan 1 2006/07 Target
	Water						
1	Unplanned water supply interruptions	per 100km	12.6	55.0	12.56	16.6	55.0
2	Average time taken to attend bursts and leaks (priority 1)	minutes	26.8	40.0	26.82	28.3	40.0
3	Average time taken to attend bursts and leaks (priority 2)	minutes	129.4	150.0	129.35	63.6	150.0
4	Unplanned water supply interruptions restored within 5 hours	per cent	98.4%	97.8%	98.4%	100.0%	97.8%
5	Planned water supply interruptions restored within 5 hours	per cent	87.5%	87.0%	87.5%	99.7%	87.0%
6	Average unplanned customer minutes off water supply	minutes	6.3	8.0	6.26	10.8	8.0
7	Average planned customer minutes off water supply	minutes	16.0	65.4	16.04	6.3	65.4
8	Average frequency of unplanned water supply interruptions	number	0.07	0.07	0.07	0.11	0.07
9	Average frequency of planned water supply interruptions	number	0.12	0.50	0.12	0.05	0.50
10	Average duration of unplanned water supply interruptions	minutes	83.5	118.7	83.50	99.2	118.7
11	Average duration of planned water supply interruptions	minutes	136.2	130.8	136.22	118.3	130.8
12	Number of customers experiencing more than 5 unplanned water supply interruptions in the yea	number	0.0	0.0	0.00	0.0	0.0
13	Unaccounted for water	per cent	11.9%	16.0%	11.9%	This is an annual measure calculated as at 30 June	15.0%

Please note that definitions for all water standards are provided in Appendix 5

In Table 11, the key performance indicator (KPI) "Average duration of planned water supply interruptions" (KPI 11) was not met in the 2005/06 financial year. This was due to a significant increase in planned interruptions carried out for new developments for water main extension tie-ins which required a minimum of 180 minutes to complete.

Gippsland Water's planned corrective action for this KPI was to continue efforts to minimise the duration of planned shutdowns, including the instigation of live "cutovers", which saw the average duration drop from 190 minutes in September 2005, to 136 minutes by the end of June 2006. The average duration of interruptions from October 2005 to June 2006 was 112 minutes. This shows the rapid improvement since corrective action was taken.

Effective from the 1st July 2006, Gippsland Water implemented changes to the planned shutdown policy and practices, which will help ensure this KPI is met in future years. The 2006/07 year to date figures for this indicator reflect a reduction in the number of minutes taken, to a level under the target at this stage.

In Table 11, the KPI "Average unplanned customer minutes off water supply" (KPI 6), and the KPI "Average frequency of unplanned water supply interruptions" (KPI 8) are not being met, year to date, in the 2006/07 financial year. One of the contributing factors for this is the continual warm, dry weather experienced due to the ongoing drought. Even though the number of bursts and leaks has increased, the number of customers interrupted has decreased. In an effort to improve service in this area, Gippsland Water carry out a water main replacement program that aims to reduce old or faulty mains from causing repeat interruptions to our

customers. Investigations into installing more valves in problem areas throughout each reticulation system are being undertaken. With shut off valves being more frequent on long sections of main, the number of properties interrupted to repair a fault will be reduced.

Table 12: Sewerage Service Standards

KPI No	Key Performance Indicator	Unit of Measure	Performance Actual 2005/06	Water Plan 1 2005/06 Target	Average over past three years	Year to Date Performance as at 30 April 2007	Water Plan 1 2006/07 Target
	Sewerage						
14	Sewerage blockages	per 100 km	16.8	25.0	16.85	14.9	25.0
15	Average time to attend sewer spills and blockages	minutes	151.9	35.0	151.88	29.3	35.0
16	Average time to rectify a sewer blockage	minutes	94.2	130.0	94.18	80.8	130.0
17	Spills contained within 5 hours	per cent	100.0%	98.0%	100.0%	100.0%	98.0%
18	Customers receiving more than 3 sewer blockages in the year	number	0.0	0.0	0.0	This is an annual measure calculated as at 30 June	0.0

Please note that definitions for all waste standards are provided in Appendix 5

In Table 12, the KPI "Average time to attend sewer spills and blockages" (KPI 15) was not met in the 2005/06 financial year. This was due to the extreme difficulty related to the region's size and area to be covered. It is simply not possible to reach all points within the region in 35 minutes. Various strategies have been instigated which have reduced the average monthly time since July 2005.

Gippsland Water's planned corrective action for this KPI included a formal variation to a major service contract, which came into effect on 1 January 2006. This variation saw our contractors' KPI's changed to align with Gippsland Water's KPI targets. The variation has since been reflected in monthly results.

The 2006/07 year to date figures for this indicator reflect a reduction in the number of minutes taken, to a level under the target at this stage.

Table 13: Customer Service Standards

KPI No	Key Performance Indicator	Unit of Measure	Performance Actual 2005/06	Water Plan 1 2005/06 Target	Average over past three years	Year to Date Performance as at 30 April 2007	Water Plan 1 2006/07 Target
	Customer Service						
19	Complaints to EWOV	er 1000 customers	0.12	0.70	0.12	0.10	0.70
20	Telephone calls answered within 30 seconds	per cent	88.6%	80.0%	88.6%	83.2%	80.0%

Please note that definitions for all customer service standards are provided in Appendix 5

Table 14: Additional Service Standards

KPI No	Key Performance Indicator	Unit of Measure	Performance Actual 2005/06	Water Plan 1 2005/06 Target	Average over past three years	Year to Date Performance as at 30 April 2007	Water Plan 1 2006/07 Target
	Additional Service Standards						
21	Average time taken to attend bursts and leaks (priority 3)	minutes	1,693.8	2400.0	1,693.77	1044.7	2300.0
22	Population receiving water meeting E.coli standards	per cent	100.0%	99.0%	100.0%	100.0%	100.0%
23	Population receiving water meeting Disinfection by-products standards	per cent	99.6%	99.0%	99.6%	99.6%	100.0%
24	EPA Discharge Quality licence compliance	per cent	99.2%	100.0%	99.2%	99.3%	100.0%
25	Population receiving water meeting Turbidity standards	per cent	100.0%	100.0%	100.0%	100.0%	100.0%

Please note that definitions for all additional service standards are provided in Appendix 5

In Table 14, the KPI "EPA Discharge Quality Licence Compliance" (KPI 24) was not met in the 2005/06 financial year. This was due to incidents in two separate locations during the 2005/06 year. These incidents occurred at Neerim South Waste Water Treatment Plant (WWTP) (October 2005); and Morwell WWTP (February 2006).

Details relating to each specific incident are reproduced below:

Neerim South WWTP (August 2005-February 2006, June 2006)
Total phosphorus results for the annual reporting period were above the median value of 0.5 mg/L. Poor biomass health and anaerobic conditions in the buffer tank had reduced the efficiency of phosphorus removal. The problem was compounded by sulfide generated preferentially binding with the coagulant added to remove phosphorus.

Corrective action included taking the buffer tank off-line to restore the health of the biomass in the bioreactor and return treatment efficiency. Coagulant dosing was gradually increased to improve phosphorus removal without impacting on restoration of biomass health. The buffer tank was brought back on-line with revised operating set points to prevent anaerobic conditions, once the median total phosphorus target was reached.

An inline chemical mixer was installed to allow more effective phosphorus removal. Since implementing the plant improvements, the median total phosphorus results have remained below 0.5 mg/L.

Morwell WWTP - 07/02/2006
During February 2006 a failure of the aerator in the North Basin resulted in all influent being directed to the South Basin. The South Basin was unable to cope with the extra load which led to final effluent being discharged with an ammonium nitrogen concentration greater than the EPA Licence maximum of 5 mg/L.

Corrective action included taking the North Basin off line to allow repairs to be carried out on the aerators. Once the problem with ammonium nitrogen concentration in the South Plant effluent was identified, the effluent flow was diverted to Lagoon 5. South Basin was aerated heavily to re-establish nitrification, then the aeration was turned down until sufficient

denitrification was taking place. The North Plant's Basin was reseeded using biomass from the South Basin and was brought up to full capability. The effluent from the North and South Basins continued to be diverted Lagoon 5 during this time. Once both plants were complying with the EPA licence treated water quality requirements , discharge was recommenced to the wetlands. Discharging recommenced on the 10 March 2006.

The operation of both the North and South Basins has been optimised and they are now producing effluent that is well within the median water quality requirements of the EPA licence.

2006/07 year to date performance issues

In Table 14, the KPI "Population receiving water meeting disinfection by-products standards" (KPI 23) is not being met in the 2006/07 financial year. This is due to an issue at Rawson, where investigations concluded that while chlorine dosing concentrations were at expected levels, higher than normal levels of organic material were experienced resulting in higher THM levels. The new Rawson Water Treatment Plant has significantly reduced the organic load currently experienced in the water supply and consequently reduced the chlorine demand and the potential for high concentrations of disinfection by-products.

In Table 14, the KPI "EPA Discharge Quality Licence Compliance" (KPI 24) is not being met in the 2006/07 financial year. While not currently on target, Gippsland Water expect to meet this target. E. coli counts in the treated water irrigated at Heyfield WWTP for the previous 12 months are above the median limit of 1000 organisms/100mL. Irrigation at Heyfield WWTP has been stopped. Investigations indicate that E. coli counts in the water entering the irrigation water storage lagoon are acceptable. Elevated E. coli counts in the irrigation water are likely due to the activity of water birds in the low volume of water currently in the irrigation water storage lagoon. Discussions are currently being held with EPA regarding management of E. coli levels in irrigation water whilst protecting water bird activity.

3.1.3 SERVICE STANDARDS – HISTORICAL PERFORMANCE COMPARED TO WATER INDUSTRY

During February 2007 the ESC released its annual Water Performance Report outlining performance of urban water and sewerage businesses for the period July 2005 – June 2006. This report is the second containing performance of regional water authorities in addition to the three metropolitan water corporations who have operated under the ESC regime for some time.

This Report is based on the data provided by all water businesses during the year, which was subject to audit during September and October 2006.

Overall Gippsland Water's results were very pleasing when compared to both the industry as a whole and to the other regional urban water authorities. The report indicates that Gippsland Water achieved industry best practice with respect to the following KPI's:

- Containment of sewer spills within 5 hours;
- Microbiological water quality (per cent of customers receiving drinking water meeting E. coli requirements);

- Turbidity (per cent of customers receiving drinking water that meets turbidity requirements); and
- Disinfection by products (per cent of customers receiving drinking water that meets disinfection).

3.2 DELIVERY OF KEY CAPITAL PROJECTS

During the development of the first Water Plan, Gippsland Water identified a significant capital works program that was funded under the ESC approved tariff setting process. Detailed below is the progress made to date on the implementation of the key capital projects identified in the Essential Services Commission final Determination (refer Determination - table 9, page 30). Where key capital projects have been delayed or replaced, this is identified, including how and when the business now expects to deliver the project.

Table 9 **Major projects identified in Water Plan**

Reason	*Project description*	*Outputs to be achieved within regulatory period*
Erica /Rawson water treatment plant		
Water quality	Construction of a water treatment plant.	Project to be delivered by 2006-07.

Construction of the Erica/Rawson Water Treatment Plant has recently been completed. As of February 2007, this fully operational plant now supplies potable water to the townships of Erica and Rawson.

Table 9 **Major projects identified in Water Plan**

Reason	*Project description*	*Outputs to be achieved within regulatory period*
Tyers treatment plant upgrade and pipeline to Toongabbie & Cowwarr		
Water quality at Toongabbie & Cowwarr Ensure reliable security of supply at Tyers/Glengarry/Rosedale & Toongabbie/Cowwarr	Upgrade Tyers water treatment plant to ensure reliable security of supply and provide potable water supply to Toongabbie and Cowwarr via construction of pipeline.	Project to be delivered by 2006-07.

The upgrade to Tyers Water Treatment Plant is operational, but currently in final stages of membrane filtration commissioning. This project will be completed by 30 June 2007, ensuring the Tyers Water Treatment Plant can produce sufficient quantities of potable water to Tyers/Glengarry/Rosedale during peak demand. Furthermore, this upgrade has allowed for an extended potable water supply system which includes the townships of Toongabbie & Cowwarr.

The 12 km Toongabbie Pipeline project was completed November 2005. The 750KL Toongabbie Tank was completed October 2005. Both assets have been commissioned and introduced to the Tyers water reticulation system late November 2005. Introduction of these assets has addressed water quality and security of supply issues for the townships of Toongabbie and Cowwarr.

Table 9 **Major projects identified in Water Plan**

Reason	*Project description*	*Outputs to be achieved within regulatory period*
Seaspray sewage scheme		
New small town scheme	Provision of a reticulated wastewater services to the coastal township of Seaspray.	Project to be delivered by 2007-08.

The Seaspray Sewerage Scheme consists of seven separate tender packages with construction schedules which overlap to accommodate system commissioning tasks. The status of each tender package is as follows:

Tender package No 1
Supply of Pumping Systems
Contract was awarded in November 2006 and will progress as connections proceed.

Tender package No 2
Construction of Rising Main from Township to Wastewater Treatment Plant site
Contract was awarded in December 2006, with practical completion of the works achieved in late May 2007.

Tender Package No 3
Reticulation works (within streets and to property Boundary Kit)
Contract awarded in March 2007. Construction works on site commenced late April 2007 with the installation of village reticulation mains within the streets and reserves. Final installation of the 8.5 km of mains was completed in late May 2007. Installation of the individual property boundary kit connections commenced on Monday early June 2007 at the rate of 6 per day and will progress through the village in an orderly manner. The contract date of completion of this contract is early August 2007 and it is expected that the contractor will meet the scheduled time frame.

Tender package No 4
On Property works
Contract was awarded in May 2007.
The contract period is 30 weeks and due for completion in late December 2007.
There are three distinct phases of the work comprising design, installation and commissioning with the design phase of around 10 weeks already well under way.

Tender package No 5
Wastewater Treatment Plant
The EPA Works Approval for the construction of the wastewater treatment facility was issued by the EPA in mid May 2007.

Tender package No 6
Wastewater Treatment Plant Civil Works
The Wastewater Treatment Plant civil works was awarded in May 2007.
Works associated with the preliminary contract phase are currently under way with a commencement of works on site scheduled for early June 2007

Tender package No 7
Pump Station
Still pending.

The project is on schedule for completion before 30 June 2008, as planned.

Table 9 **Major projects identified in Water Plan**

Reason	*Project description*	*Outputs to be achieved within regulatory period*
Warragul wastewater treatment plant upgrade		
Insufficient capacity for current wastewater demand Ensure EPA licence performance requirements are met at all times	Construct of new inlet works and installation of new dosing facility at Warragul wastewater treatment plant. Improved management of wastewater inflows, particularly from Warragul water treatment plant	Project to be delivered by 2006-07.

The Warragul Inlet Screen Upgrade Project was completed June 2006. The Inlet Screen Upgrade ensures the Waste Water Treatment Plant has an increased capacity of up to 250L/s and avoids excess flows being diverted to the lagoon.

The Warragul Chemical Dosing Upgrade Contract was awarded late December 2006. Gippsland Water advises that satisfactory progress has been made to date on this project, and the project is currently scheduled for completion in June 2007.

Table 9	**Major projects identified in Water Plan**	
Reason	*Project description*	*Outputs to be achieved within regulatory period*
Drouin wastewater treatment plant		
Address EPA discharge licence requirements	Upgrade of wastewater treatment plant	Project to be delivered by 2006-07

Construction of the Dissolved Air Floatation Filtration tertiary filter for the Drouin Waste Water Treatment Plant was completed October 2006. EPA approval to discharge into Shillinglaw Creek was granted following successful completion of plant performance trials.

Table 9	**Major projects identified in Water Plan**	
Reason	*Project description*	*Outputs to be achieved within regulatory period*
Water renewals / replacement		
Address customer service standards	Renewal/replacement of various water main and reticulation pipes across water networks.	Reticulation: 12.3 km Other: 0.5 km

Gippsland Water advises that satisfactory progress has been made during the first Water Plan period in relation to water renewals and replacement. Rather than a specific project at a single location, this expenditure bundles renewals/ replacement expenditure across the region.

Outputs achieved to date are as follows:

- 2005/06 year - 6.40km of reticulation renewals completed;
- 2006/07 year - 6.03km of reticulation renewals completed to date. A further 1.67km is on schedule for completion before 30 June 2007; and
- 2007/08 year – While still being developed, the water main replacement program is expected to include the scheduling of a further 6.0km during this period.

Completion of the programs outlined will see the delivery of approximately 20km of water main renewals over the three year period.

Table 9 **Major projects identified in Water Plan**		
Reason	*Project description*	*Outputs to be achieved within regulatory period*
Sewer renewals / replacement		
Address customer service standards	Renewal/replacement of various wastewater main and reticulation pipes across wastewater networks.	Reticulation: 3 km

Gippsland Water advises that satisfactory progress has been made during the first Water Plan period in relation to sewer renewals and replacement. Rather than a specific project at a single location, this expenditure bundles renewals/ replacement expenditure across the region.

The sewer upgrade program was introduced to Gippsland Water's capital works program in the 2005/06 year. Outputs achieved to date are as follows:

- 2005/06 year – 1.33km of sewer mains renewals completed;
- 2006/07 year - 1.36km of sewer mains renewals completed to date. A further 0.2km is on schedule for completion before 30 June 2007; and
- 2007/08 year – While still being developed, the sewer replacement program is expected to include the scheduling of a further 1.5km during this period.

Completion of the programs outlined will see the delivery of approximately 4.3km of sewer reticulation renewals over the three year period.

Table 9 **Major projects identified in Water Plan**		
Reason	*Project description*	*Outputs to be achieved within regulatory period*
Water augmentation		
Domestic growth	Augmentation of various water systems throughout Gippsland Water's water networks	Mains: 12 km

Gippsland Water advises that satisfactory progress has been made during the first Water Plan period in relation to water augmentation (new works rather than renewals). Rather than a specific project at a single location, this expenditure bundles renewals/ replacement expenditure across the region.

The following Water Augmentation Projects have been completed in the 2005/06, and 2006/07 Capital works programs:

Buckley's Hill CWS Pipeline - This project introduced a separate 0.234km inlet main into Buckley's Hill clear water storage in Morwell, and was completed in August 2006. The purpose

of this project was to increase water turnover within the existing storage, and to improve the reliability of the chlorine residual and the quality of the disinfected water supplied to customers.

Maffra to Boisdale Pipeline - This 7.65km pipeline extends the Maffra reticulation system to include the township of Boisdale, and was completed March 2006. Following introduction of this asset the localised bore supply system, which had issues relating to on-going quality and security of supply, has been decommissioned.

Toongabbie Water Reticulation Mains – Completion of this 1.53km water main extension project successfully extended the reticulation network to offer main frontage to previously un-serviced areas of the town. Furthermore, the extended reticulation system removed a number of dead end mains, offering improvements to water quality through increased turnover. This project was completed October 2005.

300mm Maffra Rising Main & Link Main Project - Completed July 2006, the purpose of this project was to integrate the existing high and low level zones by constructing a series of link mains across the existing zone boundaries. A dedicated rising main also allows discrete pumping of water from the Treatment Plant to the McAdam Street storage tanks. A total 2.61km of pipe assets have been integrated into the Maffra reticulation system as part of this project.

Completion of the programs outlined will see the delivery of approximately 12.0km of water augmentation projects over the three year period.

Table 9 **Major projects identified in Water Plan**

Reason	*Project description*	*Outputs to be achieved within regulatory period*
Sewer augmentation		
Domestic growth	Augmentation of various wastewater systems throughout Gippsland Water wastewater networks	Mains: 4 km

Gippsland Water advises that satisfactory progress has been made during the period of the first Water Plan in relation to sewer augmentation (new works rather than renewals). Rather than a specific project at a single location, this expenditure bundles renewals/ replacement expenditure across the region.

The following Sewer Augmentation Projects have been completed in the 2005/06, and 2006/07 Capital works programs:

Bradford Drive Rising Main Traralgon – This contract included construction of a 2.8km rising main which alleviates pressure from the Lodge Drive pump station due to increased capacity requirements of local sub-divisions. Project complete September 2006.

Hopetoun Road Sewer Pump Station & Rising Main – The Hopetoun Road Pump Station is a critical pump station in the town of Drouin which serves approximately 35% of Drouin's properties. To address capacity and emergency storage issues, this pump station has been refurbished together with a new rising main. This 1.51km rising main has an increased capacity

to cater for current and future land developments in this area. Both the Sewer Pump Station and Rising Main Project were successfully commissioned January 2006.

McNeilly Road Deep Sewer – This 0.416km long, deep gravity sewer project extended sewer services to an undeveloped area north of Wood St and McNeilly Road, Drouin to cater for proposed subdivisions in this area. This project was completed December 2005.

The following Sewer Augmentation Project is currently included as part of the 07/08 Capital works program:

Cross's Road Sewer Pump Station and Rising Main – Whilst construction is yet to commence, this project will address shortcomings in the current sewerage network for this developing region of Traralgon. A pump station upgrade with increased capacity, and a new 0.44km rising main will be constructed to direct sewerage into the Traralgon sewerage system. This project is on schedule for completion in August 2007.

Completion of the programs outlined will see the delivery of approximately 5.0km of sewer augmentation projects over the three year period.

Table 9 **Major projects identified in Water Plan**

Reason	*Project description*	*Outputs to be achieved within regulatory period*
Gippsland Water Factory		
EPA abatement notice to reduce odour Mitigate public liability exposure Insufficient capacity for projected wastewater demand Address deteriorating condition of existing piped section of Regional Outfall Sewer	Establishment of wastewater treatment plant to treat central Latrobe Valley wastewater for discharge to the Regional Outfall Sewer and addition of desalination plant to promote reuse.	Project to be delivered by 2007-08.

In December 2003, DSE organised a facilitated workshop which was attended by key representatives of DSE, Gippsland Water, Parsons Brinckerhoff, PriceWaterhouseCoopers, and Phillips Fox. The aim of this workshop was to create a clear understanding about the Gippsland Water Factory project and to develop support for the Business Case document. Under direction from DSE, the scope of the project was modified to ensure that the initial stage of development resulted in a "stand alone" investment, i.e. that future stages of the project would not be locked-in as a consequence of the initial project approval.

The Strategic Assessment and Business Case document, that was submitted to DSE for approval in March 2004, and ultimately to DTF, recommended the acceptance of Option 3 – "Gippsland Water Factory - Stage 1 Standalone" (Partial Re-use). In addition to the approval by DSE's Project Review Committee, the Business Case was further assessed by DTF's Gateway Process prior to approval by Cabinets Expenditure Review Committee. The Business Case contained indicative cost estimates for Option 3 of $137m capital and $8.5m recurrent over the life of the project to 2025. Also, the Business Case recommended the adoption of a Project Alliance as the

preferred procurement methodology for the project due to the specific risk profile that needed to be carefully managed.

On the 25 August 2005, the Premier, Treasurer and Minister for Water jointly announced that a new $140m wastewater treatment facility would be built in the Latrobe Valley to service industry and urban customers in the central Gippsland region, including a $50m Victorian Government contribution towards the project.

After a thorough and extensive selection process, an Alliance Agreement was signed in December 2005 between Gippsland Water, Parsons Brinckerhoff, CH2MHill, and Transfield Services Limited. The initial task for the Alliance participants was to develop the Target Outturn Cost (TOC) for the project which forms the basis of a model against which future gain / pain rewards would be assessed. In addition, a carefully selected suite of key performance indicators was also developed in order to underpin the delivery of the project vision and objectives.

On 24 August 2006, Gippsland Water received final approval from the Treasurer of Victoria for the project to proceed. The final approved capital expenditure for this project is $173.9m. Accordingly, Gippsland Water's capital expenditure for 2007/08 has been adjusted to account for the difference between the original forecast estimate and the final approved project estimate.

As part of the assessment of the project estimate shortfall a detailed investigation was undertaken to determine where the differences existed between the original business case capital estimate and the final approved capital estimate. Although a detailed direct comparison is very difficult and complex due to differences in the level of design development when the estimates were established, the differences can be characterised into two primary areas:

- Significant increases in the cost of construction during the period 2003/04 to 2005/06; and
- Underestimated elements of the original Business case estimates to address further development in the technical requirements.

During the second part of 2006 the Alliance participants mobilised their resources and commenced the detail design of the project. Over 150 design, planning and project staff have been engaged so far with the majority of these resources being located on-site at the project office in Traralgon. Throughout the TOC development stage and the subsequent detail design stage, the project has been subjected to independent oversight from industry experts to ensure that value for money is being achieved wherever possible. In addition, Gippsland Water has conducted financial audits to ensure that expenditures and claims are consistent with the Alliance Agreement.

Construction of the Gippsland Water Factory project commenced, on two fronts, late in January 2007. The bulk earthworks contractor at the Maryvale site is due to be complete by mid-April while the first stages of the transfer mains at Traralgon are making good progress. The Alliance Agreement provides for the completion of process commissioning by December 2008 at which time the two year proving and optimisation period will commence. Final hand-over of the works to Gippsland Water is scheduled to occur on 30 December 2010.

3.3 CHANGES IN LEGISLATIVE OBLIGATIONS

Gippsland Water understands that the Essential Services Commission will allow costs associated with additional legislative obligations, or changes in current legislative obligations to be taken into account where the net impact is 2.5 per cent of Gippsland Water's total revenue over the first regulatory period or $1m, whichever is greater. During the consultation process in February 2007, the ESC advised that the limits described (2.5% or $1m) were cumulative, and did not represent limits for any individual event.

Gippsland Water has carefully considered the changes that have taken place since the inception of the first Water Plan, and considers that the changes detailed in Table 15 could be included in funding models for this Water Plan.

Table 15: Changes that could be included in Water Plan funding

Nature of the additional or changed obligation	Outcomes delivered	Net operating and financing costs	Any decrease in the net operating costs
Fluoridation of water supplies	Delivery of DHS mandated fluoridation requirements	Initial costs reimbursed by DHS. Ongoing costs approximately $0.2m per annum.	Nil
Treatment of Feasibility Studies	Writeoff of significant costs previously considered to be "capital" in nature	$0.388m	Nil
Impacts of bushfire	Recovery / cleanup of assets after major bushfire during 2005/06 summer period. (Note these costs are net of the insurance recovery received in 2006/07 for Moondarra Pine Plantation). Expansion of water treatment plant capacity due to deteriorating water quality following the 2006/07 bushfires	$.0567m plus $0.060m capital works less $0.192m received from insurance claim	Nil
Impacts of drought	Purchase of water for security of supply, and cartage of water to small towns in the region. Expanded algae and taste and odour monitoring following blue-green algae outbreak in supplied source water.	Approx. $0.650m	Nil

Impacts of bushfire	Recovery / cleanup of assets after major bushfire during 2006/07 summer period	Approx. $0.150m	Nil

Gippsland Water believes that the funding required to meet these activities from the first regulatory period, when combined with the funding required to support both new obligations and changes in operating circumstances identified during the development of this Water Plan, will have a significant impact on customer tariffs.

Gippsland Water has determined that while these costs were not provided for in the first regulatory period, and that evidence exists to support the inclusion of these costs into the funding model for this Water Plan, funding will not be sought in an effort to provide some tariff relief.

4.0 SERVICE OUTCOMES – NEW REGULATORY PERIOD

4.1 ORGANISATIONAL APPROACH

Gippsland Water is a key player in the management of natural resources within the region. We acknowledge that the challenges for organisations and individuals involved in sustainable natural resource management are substantial and increasing in complexity. Our stakeholders and the wider community expect that we will manage our natural resources in the interests of future generations and accordingly are seeking greater transparency and accountability in our stewardship of these resources.

A sufficient supply of high-quality water is a prerequisite for a developing and sustainable region.

Deterioration of our rivers, wetlands, estuaries, bays, oceans, lakes and floodplains also damages our economy and our society.

The path towards sustainable water and natural resource management means change. Our challenge is to achieve the necessary change, including the way we supply, use and re-use water, through innovation, leadership and collaboration.

The Board of Gippsland Water has led the development of a Strategic Plan that provides the business with clear direction to deliver on a range of objectives that responds to these challenges and meets the needs of customers, stakeholders and the community.

Our Strategic Plan has a strong focus on:

- Resource Sustainability;
- Customers, Stakeholders and Community;
- Governance; and
- Organisational Sustainability.

4.1.1 RESOURCE SUSTAINABILITY

Water is a vital element of our natural environment. It sustains all forms of life. Our slogan ‘Our Water, Our Future’ signals our intention to protect and preserve this most precious resource. Our objectives are:

- Secure the supply of safe and reliable water to the region;
- Use and re-use our natural resources efficiently;
- Integration of natural resource management within the whole catchment; and
- Make best use of the strategic, financial and environmental value of Gippsland Water’s prescribed waste and agricultural businesses.

4.1.2 CUSTOMERS, STAKEHOLDERS AND COMMUNITY

Gippsland Water's "whole of business" approach to customer relations reflects the changing needs and expectations of our customers and stakeholders. We recognise the need to strengthen our engagement with the community so that together we can find new solutions to the region's challenges. Our objectives are:

- Manage our resources to satisfy customer and stakeholder expectations; and
- Provide strong leadership, advocacy and a platform for innovation and corporate learning in sustainable water management.

4.1.3 GOVERNANCE

The Board and our staff are committed to ensuring/achieving a robust Corporate Governance regime to enable Gippsland Water to satisfy the requirements of all applicable legislation. Our objectives are:

- Meet current and emerging statutory and regulatory obligations; and
- Identify and manage organisational risks.

4.1.4 ORGANISATIONAL SUSTAINABILITY

Gippsland Water is committed to ensuring the ongoing sustainability of our organisation through continuing investment in our people, our systems and our physical assets. Our objectives are:

- Ensure we have the organisational capability to meet future needs;
- Continually improve the efficiency and effectiveness of our business processes; and
- Manage all assets in an efficient and sustainable manner.

4.2 CUSTOMER CONSULTATION

4.2.1 OVERVIEW OF CUSTOMER CONSULTATION

Gippsland Water has established three customer committees that serve as a consultation point between the organisation, its community and its customers. These three groups meet quarterly and address the service delivery aspects of Gippsland Water's operations. There is an Environment and Customer Consultative Committee, the Dutson Downs Advisory Committee and the Coastal Advisory Committee.

Gippsland Water also undertakes various consultation programs for special projects including the customer charter, this Water Plan, the recently completed Water Supply Demand Strategy and the proposed amendment to the Merrimans Creek bulk water entitlement. The consultation activities include; public notice advertising seeking comments, making documents available on

the website for comment, focus groups, public meetings or expos and media releases inviting comments.

A full list of consultation activities undertaken by Gippsland Water is included in Appendix 3.

4.2.1.1 CUSTOMER SURVEY

Gippsland Water conducts an independently facilitated customer satisfaction survey every 18 months with its residential customers. This survey contains question areas that optimise data capture opportunities in line with Water Plan commitments.

Gippsland Water then creates an implementation plan for the results of each survey. This plan takes the key areas for improvement that were identified in the survey results and has actions designed to address these. These results are also shared with Gippsland Water's Environment and Customer Consultative Committee which then makes recommendations for addressing these.

Details of the latest customer survey are provided in appendix 4.1.

4.2.1.2 MAJOR CLIENTS SURVEY & MEETINGS

Gippsland Water seeks a combination of quantitative and qualitative research conducted by an independent research company, via in-depth interviews, with Gippsland Water's twelve major clients. This survey is conducted annually. The findings and actions arising from these annual surveys are included within the operating expenditure estimates of this Water Plan.

Details of the latest major client survey are provided in appendix 4.2.

4.2.1.3 COMMUNITY BRIEFINGS ON SPECIFIC PROJECTS

Gippsland Water holds community briefings regularly for several key projects. The most significant project currently is the Gippsland Water Factory project. There have been a significant number of community information sessions held across Gippsland to date for the general public. There have also been over 20 presentations and briefings given to individual groups.

Community reference groups have been established for two key sewerage scheme projects (Coongulla and Loch Sport) and separate information sessions and meetings have been held for the Seaspray Sewerage Scheme which is currently being constructed. In addition to face-to-face community briefings, community information update newsletters are sent to each resident in the declared sewerage district to keep them informed about the project's progression.

Gippsland Water also makes information available to the public via its website.

4.2.1.4 WATER PLAN FOCUS GROUPS

As part of the development of this Water Plan, community consultation was required to engage Gippsland Water's customers and stakeholders to ensure that their expectations of Gippsland Water were understood. The consultation process was used as a vehicle for obtaining input through a two-way feedback process that would complement Gippsland Water's decision-making. Three focus groups were developed in conjunction with Nexus Research to support this community consultation process.

Due to the complexity and amount of information initially presented to customers in the preparation of this Water Plan, it was recommended to consult in two stages. Stage one was utilised to present the information to customers, allow them to take the information away for further review or discussion with family/friends. Stage two required Nexus Research to contact focus group members early in 2007 to reform focus groups, and discuss the potential options for the Water Plan.

Focus groups were established across Gippsland Water's service areas in the eastern, central and western areas, and aimed to cover a broad demographic spread including pensioners and low income earners. Twelve participants were recruited for each group (in case of non-attendance and to ensure a good representation for the focus groups) with the following demographics:

(6) Working customers
(2) Non-working customers (unemployed single parents / financial hardship)
(2) Pensioners
(2) From larger families
(12) Total

During December 2006, Nexus was involved in the first stage of the community consultation to assist in the development of the Water Plan where participants were presented with the proposed options under consideration for the Plan.

Participants received a context-setting presentation about the key areas featured in the Water Plan, and were encouraged to ask questions about the information provided. Participants were able to take the information with them to formulate opinions and feedback about the exposure draft, for discussion in the second stage.

Attendance by the community during stage one was as follows:

Group 1: Residents from Traralgon (5), Morwell (3) and Moe/Churchill (2)
Group 2: Residents from Sale (4), Maffra (3) and Stratford (2)
Group 3: Residents from Warragul (7) and Drouin (5)

In total, 31 residents took up the opportunity to discuss issues with Gippsland Water.

During February 2007, the participants who took part in the first consultation stage were invited to attend focus groups to discuss their understanding and perceptions of the proposed options for the Water Plan. Discussion and feedback were sought on four areas that Gippsland Water identified as of particular interest, given changing attitudes to water within the community.

These four areas were:

- The introduction of inclining block tariffs for residential water consumption;
- The introduction of a volumetric waste water tariff for residential customers;
- Comment on service standards, including missing/new standards; and
- The introduction of guaranteed service levels.

A group discussion topic guide was prepared to lead the focus groups. Nexus moderated all groups to ensure consistency in the interpretation and reporting of the groups' findings. A representative from Gippsland Water was available during the focus groups to answer any "technical" questions specific to Gippsland Water that customers may have asked during their consultation.

Attendance by the community during stage two was as follows:

Group 1:	8 participants (from the original 10 who participated in stage one);
Group 2:	9 participants (from the original 9 who participated in stage one); and
Group 3:	9 participants (from the original 12 who participated in stage one).

In total, 26 residents took up this opportunity to provide feedback on the issues identified to Gippsland Water. Issues raised by the focus groups are identified in section 4.2.2.

4.2.1.5 DEVELOPERS

Gippsland Water encourages local developers to meet formally on an annual basis with staff via an industry night, to discuss issues that may impact on either party in the provision of water and wastewater services to subdivisional development. Developers appreciate the excellent customer service provided by Gippsland Water, and are appreciative of the initiatives that both parties have implemented to streamline business processes.

4.2.1.6 PLUMBING INDUSTRY

Gippsland Water encourages the local plumbing industry to meet formally on at least an annual basis with staff via an industry night, to discuss issues that may impact on either party in the provision of water and wastewater services. Like Developers, the plumbing industry appreciates the excellent customer service provided by Gippsland Water, and is appreciative of the initiatives that both parties have implemented to streamline processes.

4.2.1.7 MEDIA RELEASES

Gippsland Water adopts a proactive approach in relation to local media organisations. Gippsland Water regularly releases information on events ranging from water quality issues to human interest stories where the organisation has a direct, or indirect link to the subject. As well as seeking local media support to ensure this information is available to the general public, all media releases are available via the Gippsland Water website.

4.2.2 OVERVIEW OF KEY ISSUES IDENTIFIED BY CUSTOMERS

As detailed in section 4.2.1.4, Gippsland Water outlined its use of focus groups to support the development of this Water Plan. This consultation was required to engage Gippsland Water's customers and stakeholders to ensure that their expectations of Gippsland Water were understood. The consultation process was used as a vehicle for obtaining input through a two-way feedback process that would complement Gippsland Water's decision-making. Three focus groups were developed in conjunction with Nexus Research (Nexus) to support this community consultation process.

The focus groups provided some insight into community thinking on several issues of significance to Gippsland Water.

4.2.2.1 WATER TARIFFS

Focus group participants were in favour of introducing inclining block tariffs providing that larger families are not disadvantaged. The positives of inclining block tariffs were identified as encouraging water savings/recycling, making people appreciate the value of water and penalising water wasters.

Providing the introduction is "revenue neutral" to Gippsland Water, appropriate usage and cost inclining blocks should be designed to suit as many customers as possible, so that fewer customers are disadvantaged should the new tariff system be introduced.

Larger families were thought to be disadvantaged by an inclining block tariff. It was felt that both inclining block tariffs and a variable waste water tariff could not be introduced together as the expected increases in invoicing costs would also disadvantage limited income families.

4.2.2.2 WASTE WATER TARIFFS

A two part tariff for waste water, with a fixed annual charge and a variable charge based on the amount of waste water discharged from the home, was more difficult for focus group members to comprehend and therefore customers preferred to stay with the fixed annual charge for waste water.

Participants thought the only fair way of measuring water discharged from the home was to install meters. Basing the amount of waste water leaving the home on a percentage of the water entering the home was not considered to be accurate because of the amount of grey water used outside the home and the different (aged) waste water systems people had installed.

It was realised that the positives of a variable waste water charge were to encourage people to reuse water, and by using less water initially, less water would leave their homes, overall costs would be reduced and water saved. However, the method for actually measuring and charging for the waste water was unclear to the customers.

Larger families were thought to be disadvantaged by a volumetric waste water charge. As stated above, it was felt that both inclining block tariffs and a variable waste water tariff could not be introduced together as the expected increases in invoicing costs would also disadvantage limited income families.

4.2.2.3 SERVICE STANDARDS

The standards relating to interruptions and water were considered to be the most important to focus group participants. In particular, the unplanned water supply interruptions, followed closely by sewer spills and blockages. Customers mentioned that it was most important for any interruption to be resolved quickly and returned to its original state.

When thinking about service standards that could be added to the list, participants suggested:

- a security of supply guarantee;
- standards for the quality of water;
- reduced smell and sediment in the water;
- maintenance and protection of the infrastructure; and
- quicker resolution of customer telephone enquiries.

Even though additional standards were suggested by individual customers, the service standards as already listed in the first Water Plan adequately covered customers' requirements.

4.2.2.4 GUARANTEED SERVICE LEVELS

Focus group participants identified guaranteed service levels as being advantageous for the customer, a good check on the maintenance contractors, and provided an incentive for Gippsland Water to get interruptions resolved as quickly as possible.

In addition, guaranteed service levels were acknowledged as being a way of keeping Gippsland Water efficient and honest in meeting the standards set. It wasn't the rebate that mattered as much to people, but the fact that Gippsland Water were doing what they stated they would do.

In general, customers were in favour of Gippsland Water adopting guaranteed service levels, and felt that the standards set had to be met by the organisation. A few customers were even happy to pay extra on their accounts to ensure a rebate if customers were inconvenienced.

It was felt that guaranteed service levels could be applied to the current service standards, in particular, the unplanned water interruptions and sewerage spills or blockages.

4.2.2.5 OTHER ISSUES

Other issues focus group participants considered Gippsland Water should be considering in the future which could be included in this Water Plan were:

- Ensuring adequate water supply for future population growth;

- Offering assistance and incentives to customers to install water saving devices for use inside and outside the home;
- Consideration of alternative water supplies, dual water supply systems and recycling;
- Education about grey/storm water systems, water conservation and sensible use of water;
- Investigating independent sources of water, deepening dams for additional storage and the use of bore water;
- Investigation of desalination for water supplies;
- Ensuring ongoing infrastructure maintenance; and
- Keeping customers up-to-date about water issues and Gippsland Water operations.

4.2.2.6 PROGRESSING KEY ISSUES IDENTIFIED BY CUSTOMERS

The Gippsland Water tariff structure for residential customers presently consists of a two part tariff for water, comprising a fixed service fee and a volumetric charge, and a fixed fee for wastewater services.

In the context of developing this Water Plan, the feedback on inclining block tariffs from the focus groups is in stark contrast to feedback received during the development of the first Water Plan. During the course of the 2003/04 year Gippsland Water explored with domestic customers the suitability and customer acceptance of inclining block tariffs for water. Under this approach, customers pay an increasing charge after reaching a threshold level.

Whilst the inclining block tariff structure initiative is aligned with the Victorian Government's aim of utilising pricing arrangements to drive sustainable management of Victoria's water resources, customers indicated that they were not yet willing to embrace these initiatives. Independent research undertaken by Nexus in 2003/04 concluded that 81% of customers felt that the current water billing system where they paid for each litre of water used was fair.

However, when considering alternatives to the water billing system:

- 66% preferred the current system for calculating their water accounts;
- 23% preferred an excess water tariff where they're allocated an amount of water at one price and once this is used additional water is charged at a higher price per litre.

Accordingly, Gippsland Water at that time concluded that the current tariff structure provided sufficient price stimulation to encourage water conservation initiatives.

On this occasion, the feedback from focus groups almost unanimously supported the introduction of both an inclining block tariff structure, and the introduction of guaranteed service levels as these measures lend support to the conservation of water, and ensure that Gippsland Water strives to achieve service standards.

Given this support from the focus groups, Gippsland Water included a series of questions on inclining block tariffs in a recently completed customer satisfaction survey. While results from this survey are yet to be formalised, initial feedback from the survey, which was conducted by phone with 375 Gippsland Water customers, provides a far less conclusive picture. 44% of the participants surveyed preferred an inclining block tariff structure, while 38% preferred the current tariff structure. Significantly, 18% of the participants were undecided.

Gippsland Water now proposes to conduct a large scale consultation process which will target all customers, to better understand the support within the customer base for an inclining block tariff structure. Gippsland Water intends to undertake this consultation during the period to early October 2007, and would expect that any findings could be identified and considered with the submission of its final Water Plan.

It should be noted that in undertaking this survey, Gippsland Water is not an advocate for either the inclining block tariff structure, or the introduction of guaranteed service levels. Gippsland Water has specific concerns in relation to inclining block tariffs and the impact such a tariff structure would have on large families, and low income families. Gippsland Water has not seen any evidence of inclining block tariffs significantly reducing water consumption, and is concerned that as a significant portion of consumption (approximately 80%) is for internal use, and is thus inelastic in nature, it will not significantly alter with the introduction of an inclining block tariff structure.

While the rationale for Guaranteed Service Levels may seem on the surface to be a way of keeping Gippsland Water efficient and honest in meeting the standards set, Gippsland Water will strive to achieve service standards regardless of any rebate scheme. Another view in this debate is that any rebate would only be minor in value, and as such Gippsland Water would not be penalised substantially if standards were not met, and may in fact be happy to pay the occasional rebate, rather than address the underlying issue.

Should the findings of this survey align with the focus group support for these initiatives, Gippsland Water will need to determine how to move forward, and establish a timeframe for implementation. Given the nature of the changes required to allow computerised billing systems utilise inclining block tariffs and guaranteed service levels, Gippsland Water will need to ensure a thorough development and testing regime. Current thinking is that a 2009/10 implementation would be achievable, with implementation unlikely any earlier.

4.3 CONSULTATION WITH REGULATORS

4.3.1 ENVIRONMENTAL PROTECTION AUTHORITY (EPA)

During 2006 and 2007, Gippsland Water has met with local EPA representatives to discuss issues surrounding this Water Plan. In conjunction with the EPA, Gippsland Water has endeavoured to ensure that issues of concern to both organisations have been discussed, and where required, included in this Water Plan.

A significant number of obligations outlined in section 4.4.1 relate to EPA requirements. Specifically, Gippsland Water describes actions in relation to Managing Risk (obligation 11), Sustainable Management (obligation 24), and River and Aquifer Health(obligation 28). In addition, section 4.4.2 of this Water Plan specifically outlines Gippsland Water's environmental obligations.

4.3.2 DEPARTMENT OF HUMAN SERVICES (DHS)

During 2006 and 2007 Gippsland Water has sought clarification from DHS on their expectations in terms of the Water Plan and its contents in terms of drinking water. Gippsland Water has met with DHS representatives, and in conjunction with these representatives, Gippsland Water has endeavoured to ensure that issues of concern to both organisations have, where required, been included in this Water Plan.

A significant number of obligations outlined in section 4.4.1 relate to DHS requirements. Specifically, Gippsland Water describes actions in relation to Blue green algae (obligation 27). In addition, section 4.4.3 of this Water Plan specifically outlines Gippsland Water's drinking water quality obligations.

4.3.3 DEPARTMENT OF SUSTAINABILITY AND ENVIRONMENT (DSE)

Throughout 2006 and 2007 Gippsland Water has engaged in various consultation forums with DSE over a number of issues associated with the Water Plan, including the development of the Central Region Sustainable Water Strategy, Gippsland Water's own Water Supply Demand Strategy, and the general water supply outlook. Consultation has been through:

- Debate on specific topics between Gippsland Water and DSE;
- Regular RUWA CEO's regular briefings with DSE; and
- Provision of written comments on the various drafts of the Central Region Sustainable Water Strategy and Gippsland Water's Water Supply Demand Strategy.

The results of these discussions have been incorporated within the approach Gippsland Water has articulated in this Water Plan.

4.3.4 ESSENTIAL SERVICES COMMISSION (ESC)

Throughout 2006 and 2007 Gippsland Water has engaged in various consultation forums with ESC over a number of issues associated with the Water Plan. Written submissions were provided to the ESC in response to the guidance papers the ESC released for comment in September and December 2006. In February 2007, Gippsland Water hosted representatives from the ESC and discussed at length these written submissions, and issues that were of concern to Gippsland Water.

4.4 REGULATORY AND GOVERNMENT OBLIGATIONS

For the purposes of this Water Plan, Gippsland Water was required to distinguish between the obligations imposed on the business by the Victorian Government and regulatory agencies that were "business as usual" obligations (defined as in place prior to 1 July 2008); and new obligations (defined as in place on or after 1 July 2008).

At this stage in the development of the Water Plan, Gippsland Water has not identified any new obligations commencing on or after 1 July 2008, in any discussions held with regulatory agencies or government departments.

4.4.1 STATEMENT OF OBLIGATIONS

The Minister for Water imposes obligations on Gippsland Water through a Statement of Obligations (SoO). The current version of this Statement came into effect from 1 July 2007, and details a series of obligations that Gippsland Water is required to meet. In developing this Water Plan, Gippsland Water has taken this current version of the SoO into account.

In summary, Gippsland Water confirms that there are actions contained within this Water Plan to address all the obligations placed on the business. Gippsland Water has detailed how the each of the specific obligations outlined will be addressed in this Water Plan, including targets, outcomes and expenditure. This information can be found in appendix 2.

A current copy of the Statement of Obligations can be obtained at any time via the "about us" and "governance" section of Gippsland Water's website.

4.4.2 ENVIRONMENTAL OBLIGATIONS

Gippsland Water is required by the EPA to implement the waste hierarchy in its management of sewage[1].

All water businesses are required to implement all practical options to avoid waste generation. This requirement is a continuation of obligations already specified in the *Environment Protection Act 1970* and the State Environment Protection Policy (Waters of Victoria) (SEPP (WoV)) 2003. Requirements include a better understanding and management of materials disposed to sewer that are likely to negatively impact on waste treatment processes, and managing waste treatment processes to maximise the opportunity for water recycling.

Treated wastewater can only be considered to be recycled if it is treated and reused according to documented EPA requirements[1]. The following projects have been identified to improve the reuse of reclaimed water:

[1] Environmental Protection Authority Principles to Establish EPA Environmental Obligations for Water Businesses for the 2008-2013 Pricing Determination (Publication 1069, November 2006).

- WWTP improvement projects identified for Drouin, Heyfield, Maffra, Stratford, Mirboo North, Willow Grove;
- Costs associated with Seaspray WWTP; and
- Sale/Fulham reuse project.

When treated wastewater can not be reclaimed according to documented EPA requirements, its discharge from a treatment facility is considered to be disposal. Gippsland Water has a current obligation to understand the impacts of the disposal of treated wastewater on the receiving environment. Specifically, by the end of the regulatory period Gippsland Water must have undertaken ecological risk assessments to identify impacts on beneficial uses of receiving waters, define mixing zones, and ascertain impacts on regional river health and coastal management strategies[1]. Ecological risk assessments are proposed for:

- Shillinglaw and King Parrot Creeks (Drouin WWTP);
- Red Hill Creek (Neerim South WWTP);
- Coopers Creek (Rawson WWTP);
- Hazel Creek (Warragul WWTP);
- Moe River (Moe WWTP); and
- Morwell River Wetlands (environmental flows from Morwell WWTP).

Whole effluent toxicity testing will continue to be undertaken on the treated water disposed by the Saline Water Outfall Pipeline and Delray Beach Ocean Outfall, to assess ecological risk to the marine environment.

Gippsland Water has a standing obligation to progressively reduce the size of mixing zones by improving the quality of treated wastewater disposed to waterways[1]. Projects to achieve this objective include:

- WWTP improvement projects identified for Moe, Morwell, Warragul, Neerim South, Rawson, Drouin, SWOP, ROS;
- Gippsland Water Factory; and
- Saline Waste Outfall Pipeline repairs.

As a minimum, Gippsland Water will continue to manage its activities to meet its ongoing obligation to comply with all conditions of its waste discharge licences with the EPA[1]. Projects to achieve this objective include:

- Continuation of environmental audit program to assess performance against EPA licence requirements;
- Implementation of process management plans to ensure water quality standards of WWTP EPA licences are met; and
- WWTP improvement projects identified above.

Whilst the EPA currently has existing obligations for water businesses to recycle stabilised biosolids in a sustainable manner, it has emphasised the obligation to achieve this objective in the coming regulatory period[1]. Projects to be undertaken by Gippsland Water to achieve this objective are:

- Sludge management and biosolids reuse projects identified by Treatment, Agribusiness and RRF teams (including SORF). Note that both Agribusiness and RRF are part of Gippsland Water's unregulated business.

Gippsland Water will continue to meet its current obligation to provide sewerage infrastructure required for local government to implement its domestic wastewater management plans. New sewerage infrastructure projects to be planned or undertaken are:

- Coongulla;
- Glenmaggie; and
- Loch Sport.

An EPA statutory audit of Gippsland Water's Activity Management Plans will be undertaken during the regulatory period to meet the new obligation of the EPA to independently verify that sewerage management plans meet the objectives of the SEPP (WoV) [1].

A review of trade waste management processes will be undertaken, and a trade waste management plan developed to meet a new obligation of the EPA[1]. The review will improve trade waste monitoring and reporting processes, and better clarify internal and external communication requirements. The objective of the plan is to ensure a better understanding of the relative impacts that trade waste management have on waste treatment processes, and opportunities for reclaiming water and biosolids.

Odour management is an ongoing obligation to the EPA and the community, and will continue to be a priority for Gippsland Water. Projects to identify and eliminate sources of odour from Gippsland Water's activities are:

- Gippsland Water Factory;
- ROS projects specific to odour management; and
- Contribution to the CRC for Water Quality and Treatment project on odour abatement technologies for sewers and WWTP's.

Gippsland Water will continue its standing obligation to the EPA, to identify opportunities for abatement of greenhouse gas emissions and reduce energy demand[1]. New and ongoing projects will include:

- Participation in the VicWater greenhouse and energy working group, to ensure ongoing access to information on best practice technologies and activities;
- Fine tuning of energy demand of variable speed drive pumps, to optimise pumping performance;
- Enhance process control of aerators, mixers and blowers to obtain required treatment performance with optimised energy consumption;
- Optimise energy recovery opportunities with the Gippsland Water Factory project; and
- Other recommendations that are derived from a planned energy auditors report.

Gippsland Water has consulted with the EPA on the scope and nature of the projects described above.

4.4.3 WATER QUALITY OBLIGATIONS

The *Safe Drinking Water Act 2003* requires that Gippsland Water provides drinking water that satisfies defined quality standards[2]. Gippsland Water will continue its "business-as-usual" approach to management of potable water treatment and reticulation, to achieve the defined quality standards. Examples include:

- Upgrades of WTPs or reticulation systems specifically to improve performance in meeting these standards;
- Planning for Loch Sport water supplies; and
- Operation of compliance monitoring program (Water Quality group costs, lab costs).

Gippsland Water must also continually anticipate and manage existing and emerging risks to drinking water supplies[2]. Risk Management Plans for each of the water localities will continue to be reviewed and updated, to continue to address identified risks to potable water quality. The Risk Management Plans will likely be audited by an accredited external auditor three times during the life of the regulatory period[2], to ensure that the Plans are in accordance with current best practice, and meet the requirements of the Act. Water Plan expenditure includes funding for this audit expenditure.

Water quality risks associated with supplies drawn from unprotected surface water catchments must be addressed by Gippsland Water[2]. Water quality risks encountered by Gippsland Water include blue green algae outbreaks, taste and odour compound formation, agricultural chemical usage in close proximity to waterways, and sediment runoff following bushfires. Water Plan expenditure includes funding for additional monitoring to manage these incidents.

Gippsland Water will continue to work with the West Gippsland Catchment Management Authority, EPA, Department of Primary Industry, Melbourne Water, Southern Rural Water and local government authorities to identify activities within potable water catchments that present a risk to water quality. Gippsland Water will also continue to liaise with these agencies to ensure that their planning processes include activities that reduce the risk to water quality within potable water catchments. Projects identified within the regulatory period include:

- Development of a Catchment Protection Policy for each local government area within the operational boundaries of Gippsland Water, to ensure a common approach by all agencies to protection of potable water sources. A project has commenced for the development of a Baw Baw Shire Catchment Protection Policy, in association with a number of key agencies; and

[2] Department of Human Services *Regulatory Obligations Administered by DHS for the Purpose of Preparing Water Plans for the Regulatory Period Commencing 1 July 2008* (10 November 2006)

- Participate in a research and development project to produce a modelling tool to estimate stream flows and water quality under different scenarios of land use, catchment management activities and climate change.

Gippsland Water officers undertake the collection of drinking water samples for analysis throughout its operating area. Samples are delivered to an independent laboratory for analysis. Whilst it is noted that DHS is considering regulating the process of collecting drinking water samples and analytical methods used to determine potable water quality[2], little detail is available on the nature or timeframe of the changes. Gippsland Water will therefore seek amendments to its budget should DHS require changes in obligations to be implemented within this regulatory period.

Gippsland Water will continue to meet its obligation to disclose relevant information to the public regarding drinking water quality[2]. An important aspect of this is the preparation of an annual report of performance against the requirements of the *Safe Drinking Water Act 2003*, made available to the public via the Gippsland Water website.

4.4.4 OTHER OBLIGATIONS – ANTI-TERRORISM ACT 2005

In providing water and waste water services across the region, Gippsland Water expects to be declared as an "essential service provider" (as defined in the Anti-Terrorism Act 2005) during the 2007 calendar year. The Department of Sustainability and Environment have indicated that this proposal has been forwarded to the Victorian Government for approval. Gippsland Water has included funding for this development within this Water Plan. The Anti-Terrorism Act 2005 requires the operator of a declared essential service to prepare a risk management plan for that essential service. Gippsland Water is currently in the process of developing a risk management plan to meet this requirement.

There are several objectives of a risk management plan developed under the Act. Objectives include:

- the prevention of terrorist acts in relation to the declared essential service;
- the mitigation of the effects of a terrorist act;
- the recovery of the declared essential service from a terrorist act; and
- the continuity of the declared essential service in the event of a terrorist act.

Gippsland Water has included spending on anti terrorism initiatives in this Water Plan that allow security measures to be put in place to reduce the likelihood of a terrorist attack.

The Anti-Terrorism Act 2005 outlines the requirements that must be contained within a risk management plan. These requirements include:

- an assessment of the risks to the declared essential service of terrorist acts;
- a plan of the measures to be undertaken to prevent or reduce the risk including ensuring the physical security of key infrastructure;
- a plan for the measures to be taken in the event of a terrorist act including:
    - the procedures for response to the terrorist act;

    - the procedures for recovery of the declared essential service from the terrorist act;
    - the procedures to provide for the continued safe operation of the declared essential service;
    - details of the positions of the persons responsible for the operation of the risk management plan in the event of a terrorist act; and
    - procedures for determining whether or not there should be public notification of a terrorist act and if so, the procedures for that notification;
- procedures for immediate communication with the relevant Minister and with emergency services in the event of a terrorist act;
- details of the measures to be taken to protect the declared essential service in the event of a terrorist act on another essential service on which the declared essential service is dependent;
- details of the co-ordination of the risk management plan with any relevant municipal emergency management plan prepared under the Emergency Management Act 1986; and
- details of the training to be provided to staff in relation to the procedures to be followed to prevent or respond to terrorist acts.

From a Gippsland Water perspective, putting systems into place to deter, detect, delay and respond to a terrorist event is the focus of a significant component of the capital expenditure on security. The requirement to develop procedures to respond and recover from terrorist events will be a time consuming task. The provision of security awareness training to all Gippsland Water and contractor personnel, especially those required to manage and recover from an emergency, will also be time consuming, and is provided for in this Water Plan.

Under the Anti-Terrorism Act, Gippsland Water has a duty to audit and update the risk management plan. The Act requires –

- the operator of a declared essential service must ensure that the risk management plan is audited on an annual basis to ensure that the plan is still adequate to meet the requirements of section 31;
- The operator of a declared essential service must ensure that the risk management plan is amended as soon as practicable after an audit of the plan to address any deficiencies identified in the audit.

In this Water Plan, Gippsland Water has provided for the ongoing costs associated with maintenance of the risk management plan.

Under the Anti-Terrorism Act, Gippsland Water has a duty to participate in training exercises. The Act requires -

- at least once in each year (or any longer period determined by the Minister in a particular case), the operator of a declared essential service must—
    - prepare a training exercise to test the operation of the risk management plan for the declared essential service; and
    - participate in that training exercise under the supervision of the Victorian Chief Commissioner of Police (the Chief Commissioner) and the relevant Minister.

The training exercise must comply with any prescribed standard. The training exercise must be—

- prepared in consultation with the relevant Minister; and
- conducted at a time and place, and in the manner, determined by the relevant Minister.
- In determining the time and place for the conduct of the training exercise, and the manner in which the training exercise must be conducted, the relevant Minister must consult with the Chief Commissioner and the operator.
- Any member of the Victorian Police Force (the force) who supervises the conduct of a training exercise on behalf of the Chief Commissioner must report in writing on the adequacy of the exercise to the Chief Commissioner and the relevant Minister.
- The member of the force referred to in sub-section (4) must consult with the relevant Minister as to the form and content of any report prepared for the purposes of that sub-section.

A Gippsland Water review of these requirements has identified that this training exercise will require additional time to prepare and additional costs to conduct. Gippsland Water note that the exercise can only relate to a 'terrorism' event. Thus this training exercise will be in addition to any exercise conducted to meet current emergency management requirements. Gippsland Water also note that a full scale exercise is expected, rather than a desktop exercise. In summary, other than putting systems into place to deter, detect, delay and respond to a terrorist event, the provision of an annual training exercise will be the most significant cost associated with requirements under the Anti-Terrorism Act 2005.

Current Water Plan budgets in relation to operational expenditure identify a spend of approximately $1.0m in the five year period in this area; while budgets in relation to capital expenditure identify a spend of $4.2m in the five year period.

4.5 SERVICE STANDARDS

Our commitment to providing the highest standard of products and services possible to our customers remains a major driver of our operational strategy. Gippsland Water undertakes a holistic approach towards customer relationship management to ensure we maintain our knowledge of the changing needs and expectations of our customers.

Gippsland Water has adopted a planned and phased approach to customer relationship management. Our strategy focuses on the many issues, systems and processes that need to be addressed in order to meet the ever changing needs and expectations of our customers and the environment in which we operate.

We will continue to work closely with our various consultative committees and focus groups in order to honour our commitment to exceeding the service standards outlined, despite the fact that Gippsland Water serves a large geographical area with many remote communities, we continue to exceed the tight response and restoration of service timeframes set within the Charter.

4.5.1 CORE SERVICE STANDARDS

The Commission requires Gippsland Water to outline the targets that the business intends to deliver over the regulatory period for the core set of service standards. Gippsland Water is required to outline the targets that the business proposes to deliver for each year of the regulatory period.

4.5.1.1 CALCULATING AVERAGE PERFORMANCE OVER PAST THREE YEARS

The Commission expects performance standards that are established for this Water Plan to be at least consistent with average performance over the previous three years for which actual data is available, being the periods from 2003-04, to 2005-06.

Gippsland Water has determined average performance in line with Commission requirements. The tables that follow identify actual reported performance for each year, and a calculated average for each service standard, for the past three years.

Table 16: Water Standards – Performance and average

KPI No	Key Performance Indicator	Unit of Measure	Historical Performance (Actual / Compliance)			Average over past three years
			2003/04	2004/05	2005/06	
	Water					
1	Unplanned water supply interruptions	per 100km	54.0	41.0	12.6	35.8
2	Average time taken to attend bursts and leaks (priority 1)	minutes	35.0	80.0	26.8	47.3
3	Average time taken to attend bursts and leaks (priority 2)	minutes	120.0	423.8	129.4	224.4
4	Unplanned water supply interruptions restored within 5 hours	per cent	99.2%	77.9%	98.4%	91.8%
5	Planned water supply interruptions restored within 5 hours	per cent	NR	72.3%	87.5%	79.9%
6	Average unplanned customer minutes off water supply	minutes	6.3	15.2	6.3	9.2
7	Average planned customer minutes off water supply	minutes	NR	25.2	16.0	20.6
8	Average frequency of unplanned water supply interruptions	number	0.06	0.14	0.07	0.09
9	Average frequency of planned water supply interruptions	number	NR	0.12	0.12	0.12
10	Average duration of unplanned water supply interruptions	minutes	101.0	110.8	83.5	98.4
11	Average duration of planned water supply interruptions	minutes	NR	214.1	136.2	175.2
12	Number of customers experiencing more than 5 unplanned water supply interruptions in the yea	number	NR	0.0	0.0	0.0
13	Unaccounted for water	per cent	16.9%	10.5%	11.9%	13.1%

Please note that definitions for all water standards are provided in Appendix 5. NR means “Not recorded”.

Table 17: Waste Standards – Performance and average

KPI No	Key Performance Indicator	Unit of Measure	Historical Performance (Actual / Compliance)			Average over past three years
			2003/04	2004/05	2005/06	
	Sewerage					
14	Sewerage blockages	per 100 km	28.0	34.7	16.8	26.5
15	Average time to attend sewer spills and blockages	minutes	30.0	NR	151.9	90.9
16	Average time to rectify a sewer blockage	minutes	117.0	NR	94.2	105.6
17	Spills contained within 5 hours	per cent	99.6%	100.0%	100.0%	99.9%
18	Customers receiving more than 3 sewer blockages in the year	number	NR	NR	0.0	0.0

Please note that definitions for all waste standards are provided in Appendix 5. NR means "Not recorded".

Table 18: Customer Service Standards – Performance and average

KPI No	Key Performance Indicator	Unit of Measure	Historical Performance (Actual / Compliance)			Average over past three years
			2003/04	2004/05	2005/06	
	Customer Service					
19	Complaints to EWOV	per 1000 customers	0.60	0.10	0.12	0.27
20	Telephone calls answered within 30 seconds	per cent	80.0%	NR	88.6%	84.3%

Please note that definitions for all customer service standards are provided in Appendix 5. NR means "Not recorded".

4.5.1.2 PROPOSED CORE SERVICE STANDARDS

In the tables that follow, Gippsland Water has outlined proposed targets for service standards and the reasons for adopting such targets, including where proposed service standard targets are above or below current levels, and how the business proposes to address and mitigate against the occurrence of outlier events. Separate tables are provided for Water, Waste and Customer service standards.

Table 19: Proposed Water Standards

KPI No	Key Performance Indicator	Unit of Measure	Water Plan 1 2006/07 Target	Average over past three years	2008/09 Target	2009/10 Target	2010/11 Target	2011/12 Target	2012/13 Target
	Water								
1	Unplanned water supply interruptions	per 100km	55.0	35.8	45.0	45.0	45.0	45.0	45.0
2	Average time taken to attend bursts and leaks (priority 1)	minutes	40.0	47.3	40.0	40.0	40.0	40.0	40.0
3	Average time taken to attend bursts and leaks (priority 2)	minutes	150.0	224.4	150.0	150.0	150.0	150.0	150.0
4	Unplanned water supply interruptions restored within 5 hours	per cent	97.8%	91.8%	97.8%	97.8%	97.8%	97.8%	97.8%
5	Planned water supply interruptions restored within 5 hours	per cent	87%	79.9%	87.0%	87.0%	87.0%	87.0%	87.0%
6	Average unplanned customer minutes off water supply	minutes	8.0	9.2	8.8	8.8	8.8	8.8	8.8
7	Average planned customer minutes off water supply	minutes	65.4	20.6	40.0	40.0	40.0	40.0	40.0
8	Average frequency of unplanned water supply interruptions	number	0.07	0.09	0.09	0.09	0.09	0.09	0.09
9	Average frequency of planned water supply interruptions	number	0.50	0.12	0.50	0.50	0.50	0.50	0.50
10	Average duration of unplanned water supply interruptions	minutes	118.7	98.4	118.7	118.7	118.7	118.7	118.7
11	Average duration of planned water supply interruptions	minutes	130.8	175.2	130.8	130.8	130.8	130.8	130.8
12	Number of customers experiencing more than 5 unplanned water supply interruptions in the yea	number	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	Unaccounted for water	per cent	15.0%	13.1%	14.5%	14.5%	14.3%	14.2%	14.1%

Please note that definitions for all water standards are provided in Appendix 5. NR means "Not recorded".

KP1 No. 1 - Unplanned water supply interruptions

As outlined in Table 19, in terms of an average over the past three years, Gippsland Water has achieved the target set. The details provided in Table 16 to determine the three year average indicate that annual results for this standard are inconsistent, with the 2005/06 result considered an outlier event. Indeed the three year average of 35.8 changes to 47.0 if this average is based on the three year period prior to 2005/06. Gippsland Water is concerned that the inclusion of the outlier event significantly impacts the three year average, and does not adequately reflect the level of unexpected failure likely during the period. As such, Gippsland Water proposes to reduce the target from the current level of 55 incidents per 100km, to a new target of 45 incidents per 100km, slightly lower than the average for the three year period prior to 2005/06.

KP1 No. 2 - Average time taken to attend bursts and leaks (priority 1)

As outlined in Table 19, in terms of an average over the past three years, Gippsland Water has not achieved the target set. The details provided in Table 16 to determine the three year average indicate that annual results for this standard are somewhat volatile, and the target has actually been met in some individual years, if not on average. As such, Gippsland Water proposes to leave the target for this standard unchanged at 40 minutes.

KP1 No. 3 - Average time taken to attend bursts and leaks (priority 2)

As outlined in Table 19, in terms of an average over the past three years, Gippsland Water has not achieved the target set. The details provided in Table 16 to determine the three year average indicate that annual results for this standard are somewhat volatile, and the target has actually been met in some individual years, if not on average. As such, Gippsland Water proposes to leave the target for this standard unchanged at 150 minutes.

KP1 No. 4 - Unplanned water supply interruptions restored within 5 hours

As outlined in Table 19, in terms of an average over the past three years, Gippsland Water has not achieved the target set. The details provided in Table 16 to determine the three year average indicate that annual results for this standard are somewhat volatile, and the target has actually been met in some individual years, if not on average. As such, Gippsland Water proposes to leave the target for this standard unchanged at 97.8 percent.

KP1 No. 5 - Planned water supply interruptions restored within 5 hours

As outlined in Table 19, in terms of an average over the past three years, Gippsland Water has not achieved the target set. The details provided in Table 16 to determine the three year average indicate that annual results for this standard are somewhat volatile, and the target has actually been met in some individual years, if not on average. As such, Gippsland Water proposes to leave the target for this standard unchanged at 87.0 percent.

KP1 No. 6 - Average unplanned customer minutes off water supply

As outlined in Table 19, in terms of an average over the past three years, Gippsland Water has not achieved the target set. The details provided in Table 16 to determine the three year average indicate that annual results for this standard are somewhat volatile, and the target has actually been met in some individual years, if not on average. As such, Gippsland Water proposes establish the target for this standard at 8.8 minutes, down from the three year average of 9.2 minutes.

KP1 No. 7 - Average planned customer minutes off water supply

As outlined in Table 19, in terms of an average over the past three years, Gippsland Water has achieved the target set. The details provided in Table 16 to determine the three year average indicate that annual results for this standard are significantly lower than the target. In determining the correct target moving forward, Gippsland Water needs to acknowledge the past level of performance, but also take into account an expected increase in planned works as water restriction periods come to an end. As such, Gippsland Water proposes to reduce the target for this standard to 40 minutes, which represents 38% reduction from the initial target.

KP1 No. 8 - Average frequency of unplanned water supply interruptions

As outlined in Table 19, in terms of an average over the past three years, Gippsland Water has not achieved the target set. The details provided in Table 16 to determine the three year average indicate that annual results for this standard are somewhat volatile, and the target has actually been met in some individual years, if not on average. Current 2006/07 year data is also indicated a result above the target. As such, Gippsland Water proposes to increase the target for this standard to 0.09, to match the three year average.

KP1 No. 9 - Average frequency of planned water supply interruptions

As outlined in Table 19, in terms of an average over the past three years, Gippsland Water has achieved the target set. The details provided in Table 16 to determine the three year average indicate that annual results for this standard are significantly lower than the target. In

determining the correct target moving forward, Gippsland Water needs to acknowledge the past level of performance, but also take into account an expected increase in planned works as water restriction periods come to an end. As such, Gippsland Water proposes to leave the target for this standard unchanged at 0.5.

KP1 No. 10 - Average duration of unplanned water supply interruptions

As outlined in Table 19, in terms of an average over the past three years, Gippsland Water has achieved the target set. The details provided in Table 16 to determine the three year average indicate that annual results for this standard are lower than the target. In determining the correct target moving forward, Gippsland Water acknowledges the past level of performance. In this instance however, Gippsland Water must also take into account changes in occupational health and safety requirements that will have a significant impact on the management of incidents, and the time taken to complete emergency works. As such, Gippsland Water proposes to leave the target for this standard unchanged at 118.7 minutes.

KP1 No. 11 - Average duration of planned water supply interruptions

As outlined in Table 19, in terms of an average over the past three years, Gippsland Water has not achieved the target set. The details provided in Table 16 to determine the three year average indicate that annual results for this standard are somewhat volatile, and have not met the target in any individual year. As such, Gippsland Water proposes to leave the target for this standard unchanged at 130.8 minutes.

KP1 No. 12 - Number of customers experiencing more than 5 unplanned water supply interruptions in the year

As outlined in Table 19, in terms of an average over the past three years, Gippsland Water has achieved the target set. The details provided in Table 16 to determine the three year average indicate that annual results for this standard are on target. As such, Gippsland Water proposes to leave the target for this standard unchanged at 0.

KP1 No. 13 – Unaccounted for Water

As outlined in Table 19, in terms of an average over the past three years, Gippsland Water has achieved the target set. The details provided in Table 16 to determine the three year average indicate that annual results for this standard are all lower than target. Gippsland Water has reviewed the works to be completed in activities such as “pressure reduction” during the period, and proposes targets which will reduce during the period of this Water Plan, from 14.5 percent in 2008/09, down to 14.1 percent in 2012/13. It should also be noted that each annual target is lower than the current established target.

Table 20: Proposed Waste Service Standards

KPI No	Key Performance Indicator	Unit of Measure	Water Plan 1 2006/07 Target	Average over past three years	2008/09 Target	2009/10 Target	2010/11 Target	2011/12 Target	2012/13 Target
	Sewerage								
14	Sewerage blockages	per 100 km	25.0	26.5	25.0	25.0	25.0	25.0	25.0
15	Average time to attend sewer spills and blockages	minutes	35.0	90.9	35.0	35.0	35.0	35.0	35.0
16	Average time to rectify a sewer blockage	minutes	130.0	105.6	130.0	130.0	130.0	130.0	130.0
17	Spills contained within 5 hours	per cent	98.0%	99.9%	98.0%	98.0%	98.0%	98.0%	98.0%
18	Customers receiving more than 3 sewer blockages in the year	number	0.0	-	0.0	0.0	0.0	0.0	0.0

Please note that definitions for all waste standards are provided in Appendix 5

KP1 No. 14 – Sewerage blockages

As outlined in Table 20, in terms of an average over the past three years, Gippsland Water has not achieved the target set. The details provided in Table 17 to determine the three year average indicate that annual results for this standard are somewhat volatile, and the target has actually been met in one year, if not on average. As such, Gippsland Water proposes to leave the target for this standard unchanged at 25 incidents per 100km.

KP1 No. 15 – Average time to attend sewer spills and blockages

As outlined in Table 20, in terms of an average over the past three years, Gippsland Water has not achieved the target set. The details provided in Table 17 to determine the three year average indicate that annual results for this standard are extremely volatile, and the target has actually been met in one year, if not on average. As such, Gippsland Water proposes to leave the target for this standard unchanged at 35 minutes.

KP1 No. 16 – Average time to rectify a sewer blockage

As outlined in Table 20, in terms of an average over the past three years, Gippsland Water has achieved the target set. The details provided in Table 17 to determine the three year average indicate that annual results for this standard are variable in nature, but the target has actually been met in all years. While this result would on face value suggest a reduction in target was possible, Gippsland Water is concerned that any further reduction in target would have flow-on cost implications to operational expenditure in the Water Plan itself. Concerns relate in particular to the requirement to amend existing contracts to allow for increases in contractors labour and other operating costs. As such, Gippsland Water proposes to leave the target for this standard unchanged at 130 minutes.

KP1 No. 17 – Spills contained within 5 hours

As outlined in Table 20, in terms of an average over the past three years, Gippsland Water has achieved the target set. The details provided in Table 17 to determine the three year average indicate that annual results for this standard are consistent in nature, with the target actually met in all years. While this result would on face value suggest a reduction in target was possible,

Gippsland Water is concerned that any further reduction in target would have flow-on cost implications to operational expenditure in the Water Plan itself. Concerns relate in particular to the requirement to amend existing contracts to allow for increases in contractors labour and other operating costs. As such, Gippsland Water proposes to leave the target for this standard unchanged at 98 percent.

KP1 No. 18 – Customers receiving more than 3 sewer blockages in the year

As outlined in Table 20, in terms of an average over the past three years, Gippsland Water has achieved the target set. The details provided in Table 17 to determine the three year average indicate that annual results for this standard have only been recorded in the 2005/06 year. Gippsland Water proposes to leave the target for this standard unchanged at 0 incidents.

Table 21: Proposed Customer Service Standards

KPI No	Key Performance Indicator	Unit of Measure	Water Plan 1 2006/07 Target	Average over past three years	2008/09 Target	2009/10 Target	2010/11 Target	2011/12 Target	2012/13 Target
	Customer Service								
19	Complaints to EWOV	per 1000 customers	0.70	0.27	0.70	0.70	0.70	0.70	0.70
20	Telephone calls answered within 30 seconds	per cent	80.0%	84.3%	80.0%	80.0%	80.0%	80.0%	80.0%

Please note that definitions for all customer service standards are provided in Appendix 5

KP1 No. 19 – Complaints to Energy Water Ombudsman Victoria (EWOV)

As outlined in Table 21, in terms of an average over the past three years, Gippsland Water has achieved the target set. The details provided in
Table **18** to determine the three year average indicate that annual results for this standard are consistent in nature, with the target actually met in all years. While this result would suggest a reduction in target was possible, Gippsland Water is concerned that increases in tariffs, together with greater awareness of the facilitative role of the Ombudsman will lead to an increase in complaints in this area. As such, Gippsland Water proposes to leave the target for this standard unchanged at 0.7.

KP1 No. 20 – Telephone calls answered within 30 seconds

As outlined in Table 21, in terms of an average over the past three years, Gippsland Water has achieved the target set. The details provided in
Table **18** to determine the three year average indicate that annual results for this standard are consistent in nature, with the target actually met in all years. While this result would suggest a reduction in target was possible, Gippsland Water is concerned that increases in tariffs, increases in calls related to water restrictions together with greater awareness of the facilitative role of the Ombudsman may lead to an increase in calls, detracting from Gippsland Water's ability to continue to exceed this target. As such, Gippsland Water proposes to leave the target for this standard unchanged at 80.0 percent.

4.5.2 ADDITIONAL SERVICE STANDARDS

The Commission requires Gippsland Water to outline the additional service standards the business intends to deliver over the regulatory period for the core set of service standards. Gippsland Water is required to outline the targets that the business proposes to deliver for each year of the regulatory period.

Gippsland Water does not propose to introduce any new additional service standards during the regulatory period.

4.5.2.1 CALCULATING AVERAGE PERFORMANCE OVER PAST THREE YEARS

The Essential Services Commission expects performance standards that are established for this Water Plan to be at least consistent with average performance over the previous three years for which actual data is available, being the period from 2003-04, to 2005-06.

Gippsland Water has determined average performance in line with Commission requirements. Table 22 identifies actual reported performance for each year, and calculates an average for the past three years.

Table 22: Additional Standards – Performance and average

KPI No	Key Performance Indicator	Unit of Measure	Historical Performance (Actual / Compliance)			Average over past three years
			2003/04	2004/05	2005/06	
	Additional Service Standards					
21	Average time taken to attend bursts and leaks (priority 3)	minutes	3,535.0	NR	1,693.8	2,614.4
22	Population receiving water meeting E.coli standards	per cent	99.8%	100.0%	100.0%	99.9%
23	Population receiving water meeting Disinfection by-products standards	per cent	100.0%	99.9%	99.6%	99.8%
24	EPA Discharge Quality licence compliance	per cent	99.6%	99.1%	99.2%	99.3%
25	Population receiving water meeting Turbidity standards	per cent	100.0%	100.0%	100.0%	100.0%

Please note that definitions for all additional service standards are provided in Appendix 5

4.5.2.2 PROPOSED ADDITIONAL SERVICE STANDARDS

In Table 23, Gippsland Water has outlined proposed targets for additional service standards and the reasons for adopting such targets, including where proposed service standard targets are above or below current levels, and how the business proposes to address and mitigate against the occurrence of outlier events.

Table 23: Proposed Additional Service Standards

KPI No	Key Performance Indicator	Unit of Measure	Water Plan 1 2006/07 Target	Average over past three years	2008/09 Target	2009/10 Target	2010/11 Target	2011/12 Target	2012/13 Target
	Additional Service Standards								
21	Average time taken to attend bursts and leaks (priority 3)	minutes	2,300.0	2,614.4	2300.0	2300.0	2300.0	2300.0	2300.0
22	Population receiving water meeting E.coli standards	per cent	100.0%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%
23	Population receiving water meeting Disinfection by-products standards	per cent	100.0%	99.8%	100.0%	100.0%	100.0%	100.0%	100.0%
24	EPA Discharge Quality licence compliance	per cent	100.0%	99.3%	100.0%	100.0%	100.0%	100.0%	100.0%
25	Population receiving water meeting Turbidity standards	per cent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Please note that definitions for all additional service standards are provided in Appendix 5

KP1 No. 21 – Average time taken to attend bursts and leaks (priority 3)

As outlined in Table 23, in terms of an average over the past three years, Gippsland Water has not achieved the target set. The details provided in Table 22 to determine the three year average indicate that annual results for this standard are extremely volatile, and the target has actually been met in only one year. As such, Gippsland Water proposes to leave the target for this standard unchanged at 2300 minutes, and will strive to achieve this target as part of this Water Plan.

KP1 No. 22 – Population receiving water meeting E.coli standards

As outlined in Table 23, in terms of an average over the past three years, Gippsland Water has not achieved the target set. The details provided in Table 22 to determine the three year average indicate that annual results for this standard are extremely high, with the target actually met in two of three years. It should be noted that a single event within a year will result in the failure to meet this standard. As a significant public health standard, Gippsland Water proposes to leave the target for this standard unchanged at 100.0 percent, and will strive to achieve this target as part of this Water Plan.

KP1 No. 23 – Population receiving water meeting Disinfection by-products standards

As outlined in Table 23, in terms of an average over the past three years, Gippsland Water has not achieved the target set. The details provided in Table 22 to determine the three year average indicate that annual results for this standard are extremely high, with the target actually met in two of three years. It should be noted that a single event within a year will result in the failure to meet this standard. As a significant public health standard, Gippsland Water proposes to leave the target for this standard unchanged at 100.0 percent, and will strive to achieve this target as part of this Water Plan.

KP1 No. 24 – EPA Discharge Quality licence compliance

As outlined in Table 23, in terms of an average over the past three years, Gippsland Water has not achieved the target set. The details provided in Table 22 to determine the three year average indicate that annual results for this standard are extremely high, but the target has not been met in any one year period. It should be noted that a single event within a year will result in the

failure to meet this standard. As a significant public health standard, Gippsland Water proposes to leave the target for this standard unchanged at 100.0 percent, and will strive to achieve this target as part of this Water Plan.

KP1 No. 25 – Population receiving water meeting Turbidity standards

As outlined in Table 23, in terms of an average over the past three years, Gippsland Water has achieved the target set. The details provided in Table 22 to determine the three year average indicate that annual results for this standard are extremely high, with the target actually met in all years. As a significant public health standard, Gippsland Water proposes to leave the target for this standard unchanged at 100.0 percent, and will strive to achieve this target as part of this Water Plan.

4.5.3 GUARANTEED SERVICE LEVELS

As outlined in section 4.2.1.4, Gippsland Water identified guaranteed service levels (GSL's) as an issue for consideration by focus groups during the community consultation process.

As outlined in section 4.2.2.4, focus group participants identified GSL's as being advantageous for the customer, a good check on the maintenance contractors, and provided an incentive for Gippsland Water to get interruptions resolved as quickly as possible.

In addition, GSL's were acknowledged as being a way of keeping Gippsland Water efficient and honest in meeting the standards set. It wasn't the rebate that mattered as much to people, but the fact that Gippsland Water were doing what they stated they would do.

In general, focus group participants were in favour of Gippsland Water adopting GSL's, and felt that the standards set had to be met by the organisation. A few customers were even happy to pay extra on their accounts to ensure a rebate if customers were inconvenienced.

It was felt that GSL's could be applied to the current service standards, in particular, the unplanned water interruptions and sewerage spills or blockages.

Given this support from the three focus groups, Gippsland Water proposes to conduct a large scale consultation process which will target all customers, to confirm that the feedback from focus groups is representative of the general customer base. Gippsland Water intends to undertake this consultation during the period to early October 2007, and would expect that any findings could be identified and considered with the submission of its final Water Plan.

At this stage in the process, Gippsland Water is yet to determine the basis for including particular events as GSL's, and the threshold at which the business will make payments to customers. Finalisation of an approach to the issue of GSL's will also require the determination of the size or nature of the proposed payment to be made to customers, including any exclusions, the likely cost of the scheme over the regulatory period, including the forecast cost of actual payments that would be made (based on historic performance data), and other costs associated with implementing the scheme.

4.5.4 RESTRICTIONS, LEGAL ACTION, AND HARDSHIP SCHEMES

In the initial Water Plan guidance, the Commission introduced two additional core service standards for which urban businesses would be required to set targets for each year of the regulatory period. These related to restrictions and legal action for non payment and the number of customers assisted under hardship schemes.

A majority of water businesses indicated that they were opposed to the introduction of these particular indicators. The concerns raised centred around the belief that the rate of restrictions or legal action was largely outside the business's control and that hardship grants were used where required and therefore not suited to the targeting of a predetermined number of grants to be issued in any given year.

The Commission remained concerned by the variation in the use of restrictions, legal action and hardship grants across the State. The Commission expected businesses to continue to work towards improving their management of customers facing hardship and will continue to require businesses to report on restrictions legal action and hardship grants through the performance reporting framework.

Having considered the comments received and after further consideration of the issues, the Commission was of the view that it would be inappropriate to add these indicators to the set of core service standards. While the Commission will not be requiring businesses to formally set targets for the use of restrictions, legal action or hardship grants, the Commission still required businesses to explain in their Water Plans how they propose to deal with customers facing hardship.

Gippsland Water has a Hardship policy that details procedures for assisting our residential customers. Without limiting this general obligation, the hardship policy provides internal assessment processes:

- To determine a customer's eligibility using objective criteria as indicators of hardship;
- Designed to make an early identification of a customer's hardship;
- To determine the internal responsibilities for the management, development, communication and monitoring of the policy;
- To provide staff training about Gippsland Water's policies and procedures and to ensure customers in hardship are treated with sensitivity and without making value judgements; and
- To exempt customers in financial hardship from restriction of water supply, debt recovery action and additional debt recovery costs while payments are made to Gippsland Water according to an agreed flexible payment plan or other payment schedule.

Gippsland Water issues several reminder notices to customers which outline the wide variety of payment arrangements available in accordance with their ability to pay. Gippsland Water completes an exhaustive process to ensure that we actively identify customers who may be experiencing times of hardship and apply every effort in order to work with and assist them in managing their accounts. We also have a team dedicated in attempting to contact all customers by telephone and in writing prior to considering debt recovery action.

Gippsland Water customers are able to make payments on their account in a variety of ways. These include Australia Post, 24 hour credit card payment option, direct debit, BPay, Centrepay, mailing payment to Gippsland Water, internet and in person at Gippsland Water.

If a customers personal circumstances warrant special consideration, they may apply for a case review under Gippsland Water's Hardship Policy. Customers who will be considered include:

- People on low or fixed incomes;
- People who may have experienced a sudden change in circumstances (such as ill health, unemployment, separation, a death in the family, a loss arising from an accident), or some other temporary financial difficulty;
- People who, through self assessment, have identified their position regarding ability to pay.
- People eligible for a government funded concession (eg. Health Concession Card, Social Security benefit, etc.);
- People who have previously applied for a Utility Relief Grant; and
- People whose payment history indicates that they have had difficulty meeting Gippsland Water's payment terms in the past.

Gippsland Water customers experiencing financial hardship have the right to:

- Be treated respectively, sensitively, and without judgement;
- Have their case individually considered, and their circumstances kept confidential;
- Receive prompt information on options for alternative payment arrangements, Gippsland Water's Hardship Policy and government concessions (including the Utility Relief scheme and other government financial assistance programs;
- Negotiate an amount they can afford to pay on an arrangement plan;
- Choose from various payment methods and receive written confirmation of the agreed payment arrangement within 14 days;
- Re-negotiate the amount of their instalment if there is a change in their circumstances;
- Receive information about free, independent and accredited counselling services;
- Receive a language interpreter service at no cost;
- Speak with a Gippsland Water representative who is familiar with their situation in order to re-negotiate their payment arrangement, if a payment has been missed or is likely to be missed;
- Be advised about how to minimise future water usage; and
- Be advised about their right to lodge a complaint with the independent dispute resolution scheme (Energy and Water Ombudsman of Victoria) if their affordability issue is not resolved with Gippsland Water.

Escalation of Customer Enquires:

Gippsland Water's Representatives will escalate Hardship enquires to a supervisor if a suitable repayment arrangement within the customers capacity cannot be reached. To determine if a customer warrants special consideration, Gippsland Water will arrange to meet with the customer to further review their position regarding ability to pay and assistance available under Gippsland Water's Hardship Policy.

5.0 REVENUE REQUIREMENT

A sustainable business is one that meets its stated objectives over the longer term, relative to:

- Its community, from an environmental and social perspective;
- Its customers, from its maintenance and operating regimes; and
- Its financial performance, in terms of profitability and shareholder returns.

The Board and Management Team continue to strive to meet these objectives, with a clear goal of maintaining community confidence, and delivering value for money. The clear challenge remains unchanged - concentrate on customer service, improve business and management information systems, and generally develop greater organisational capability.

This has entailed a considerable investment of resources in activities of both a capital and operational nature. In the seven years to 30 June 2004, in excess of $119m was invested in capital works to improve service quality and delivery and over $2m was invested in training and further skills development of employees.

In the two years to 30 June 2006, a further $67.9m was invested in capital works to improve service quality and delivery in both water and waste water service areas. These activities continue to focus on the replacement or renewal of critical infrastructure, and increased the emphasis on ongoing preventative maintenance.

This expenditure, and focus on business improvement has lead to Gippsland Water consistently meeting all of the obligations imposed by the Victorian Government within the first Water Plan, as well as the service and performance standards outlined within our Customer Charter. Our product and service performance is now demonstrably comparable to the best performers amongst the Regional Urban Water Authorities.

Over recent years, Gippsland Water has focused on containment and reduction of our cost base as a strategy to return the organisation to a financially sustainable position. To this end, the organisation has demonstrated a commitment to achieving this target, whilst continuing to maintain high levels of achievement and compliance for our products and services.

Later initiatives have included establishment and achievement of stretching expenditure targets as an integral component of expenditure planning complimented by the continuation of quarterly expenditure reviews and annual expenditure forecasting.

Gippsland Water has also commissioned a number of independent reviews, which have focussed on analysing the capital structure of Gippsland Water. Each of these reviews has highlighted the fact that Gippsland Water faces a significant ‘price problem’ rather than an underlying cost issue.

This Water Plan builds on these foundations, with the 2006/07 planning cycle targeted to meet the needs of this Water Plan. The planning cycle has included a significant review and challenge process, culminating in the position adopted. The revenue requirements outlined within this Water Plan continue to meet the overall objectives to improve the financial position of the organisation.

5.1 OVERVIEW OF REVENUE REQUIREMENT

Detailed in Table 24 is an overview of the revenue requirement for Gippsland Water to meet its obligations and deliver services during the regulatory period. The revenue requirement consists of several components, namely:

- "Operating expenditure" which represents the expenditure outlined in section 5.2 that Gippsland Water believes should be incurred to ensure the delivery of obligations during this period;
- "Return on assets to 30/6/08" which represents a cost of capital return, based on an agreed weighted average cost of capital value of 5.1%, on pre-existing assets, whether those assets were constructed during the first Water Plan period, or before the commencement of regulation by the Essential Services Commission in 2005/06;
- "Regulatory depreciation of assets to 30/6/08" which represents the costs associated with the use, wear and tear of pre-existing assets;
- "Return on new " which represents a cost of capital return, based on an agreed weighted average cost of capital value of 5.1%, on assets to be constructed during this period, the details of which are outlined in section 5.3; and
- "Regulatory depreciation on new assets" which represents the costs associated with the use, wear and tear of new assets brought into service during this period.

Table 24: Revenue Requirement

Revenue requirement detail	SECOND REG PERIOD				
	2009 2008-09	2010 2009-10	2011 2010-11	2012 2011-12	2013 2012-13
Revenue requirement and RAV outputs					
Revenue requirement					
Operating expenditure	51.10	55.39	55.58	56.90	57.16
Return on assets to 30/6/08	16.87	16.44	16.01	15.57	15.14
Regulatory depreciation of assets to 30/6/08	7.81	7.81	7.81	7.81	7.81
Return on new assets	1.40	3.46	4.83	6.84	9.19
Regulatory depreciation of new assets	0.67	1.70	2.44	3.43	4.56
Adjustments from last period	-	-	-	-	-
Benchmark tax liability	-	-	-	-	-
Total revenue requirement	**77.84**	**84.80**	**86.67**	**90.56**	**93.86**

The total revenue requirement increases from a base of $77.8m in 2008/09 to total of $93.9m in 2012/13. This increase of $16.1m for the 2008/09 year stems from a $6.1m increase in operational expenditure over the Water Plan period, combined with an $11.7m increase resulting from movements in new assets (return on new assets and regulatory depreciation). As outlined, Gippsland Water will deliver a capital asset program with a gross value of more than $250m during this water plan period (refer section 5.3).

Significant movements in operational expenditure are outlined in detail in section 5.2, while significant movements in capital expenditure are outlined in detail in section 5.3.

5.2 OPERATING EXPENDITURE

Gippsland Water's forecasts for operating expenditure for each year of the regulatory period are detailed, identifying the key drivers of expenditure, and providing information to show that the expected levels of expenditure are prudent and efficient.

In presenting this information, Gippsland Water has considered input from various sources, including Victorian Government obligations and strategies, and legislated requirements that have determined the need for significant increases in operating and capital expenditure. It should be noted that these increases are in many cases a result of new obligations that take effect before the commencement of this Water Plan, and as such are not viewed as new obligations when compiling the following financial tables in accordance with guidelines established by the Essential Services Commission.

Most importantly, in analysing operating expenditure trends, these increases should not be confused with operating expenditure currently related to business as usual activities. Gippsland Water at this point has not determined any new obligations that take effect after 1 July 2008.

5.2.1 OVERVIEW OF OPERATING EXPENDITURE

Detailed in Table 25 is an overview of operational expenditure required to allow Gippsland Water to meet its obligations and deliver services during the regulatory period.

Table 25 : Operating Expenditure Forecast

Operating Expenditure forecast

	SECOND REG PERIOD					
	2008 2007-08	2009 2008-09	2010 2009-10	2011 2010-11	2012 2011-12	2013 2012-13
Operating Expenditure Summary						
Business as Usual	42.26	50.50	54.78	54.97	56.28	56.54
Licence fees	0.65	0.59	0.62	0.62	0.62	0.62
Total prescribed BAU opex	42.91	51.10	55.39	55.58	56.90	57.16

Further detail in relation to this operational expenditure is provided in Table 26 and Table 27, where the allocation between water and waste services is detailed, along with the category of spend within each area.

Table 26 : Operating Expenditure Forecast – Water Segment

	SECOND REG PERIOD				
	2009 2008-09	2010 2009-10	2011 2010-11	2012 2011-12	2013 2012-13
Water					
Operations & Maintenance	10.69	10.79	10.44	10.50	10.59
Bulk charges	-	-	-	-	-
Treatment	4.00	4.15	4.30	4.37	4.48
Customer Service and billing	1.13	1.06	1.07	1.08	1.11
GSL Payments	-	-	-	-	-
Licence Fees	0.25	0.23	0.23	0.22	0.22
Corporate	7.93	7.27	7.25	7.27	7.46
Other operating expenditure	-	-	-	-	-
Total Water	24.00	23.50	23.29	23.44	23.86

Table 27 : Operating Expenditure Forecast – Sewerage Segment

	SECOND REG PERIOD				
	2009 2008-09	2010 2009-10	2011 2010-11	2012 2011-12	2013 2012-13
Sewerage					
Operations & Maintenance	7.76	9.90	9.51	8.67	8.76
Bulk charges	-	-	-	-	-
Treatment	8.29	10.27	10.91	12.59	12.25
Customer Service and billing	1.27	1.38	1.42	1.46	1.48
GSL Payments	-	-	-	-	-
Licence Fees	0.28	0.30	0.30	0.30	0.30
Corporate	8.91	9.43	9.55	9.82	9.89
Other operating expenditure	-	-	-	-	-
Total Sewerage	26.51	31.27	31.68	32.84	32.68

As indicated in Table 26, expenditure on the water segment does not move significantly during the Water Plan period. The step change in the sewerage segment of $4.7m from 2008/09 to 2009/10 in Table 27 is directly related to the operation of the Gippsland Water Factory (as discussed in section 3.2). The Gippsland Water Factory will begin operation in the second half of the 2008/09 financial year, with a full year of operation impacting on 2009/10.

In Table 26 and Table 27, corporate overheads and customer service and billing are allocated on a percentage split, based on direct operating expenditure in the water and sewerage segments. In 2007/08 overhead allocations were 51% water and 49% sewerage. With the Gippsland Water Factory beginning operation, this allocation will skew further toward the sewerage segment. In 2008/09 overheads are allocated 47% to water and 53% to sewerage, while in 2009/10 the allocation is 43.5% to water and 56.5% to sewerage.

5.2.2 KEY DRIVERS OF OPERATING EXPENDITURE

A review of operating expenditure comparing past performance and requirements for the future will quickly reveal a significant step change in the operating costs for Gippsland Water from the 2008/09 financial year. In total, operating expenditure increases from a current forecast of $42.9m in 2007/08, to $51.1m in 2008/09, a one year increase of $8.2m.

While significant, the increase should not be unexpected. A major component of the increase relates directly to the completion and implementation of the Gippsland Water Factory (which is discussed at length in section 3.2). The Gippsland Water Factory will be an innovative wastewater treatment and recycling system located at Morwell, and the first of its kind in Australia, highlighting Gippsland as a leader in sustainability and innovation.

The project will deliver a range of benefits for the Gippsland region including addressing the odour currently created by the open channel section of the Regional Outfall Sewer. The recycled water will benefit local industry, the environment and the community. The system will treat up to 35 million litres of domestic and industrial wastewater daily. At completion of the first stage of the project, the Gippsland Water Factory will produce around 8 million litres of high quality recycled water each day for use by local industry.

In addition, spending in relation to a number of current obligations has had a significant impact on operating costs. These obligations and the funds allocated to them by Gippsland Water to ensure that they are met are outlined in further detail (refer section 5.2.3). Major factors contributing to increases across the period are detailed in Table 28.

Table 28 : Operating Expenditure – major contributors to increases across the regulatory period

		SECOND REG PERIOD				
	2007-08	2009 2008-09	2010 2009-10	2011 2010-11	2012 2011-12	2013 2012-13
Total Operating Expendiure	42.91	51.10	55.39	55.58	56.90	57.16
Movement from previous year		8.19	4.30	0.19	1.32	0.26
Major Factors						
GWF Stg 1		3.40	3.50	0.40	0.40	-
Maintenance/ Contractors		1.50	-	-	-	-
Environment		0.60	-	-	-	-
Biosolids		0.40	-	-	-	-
Dam Safety		0.20	-	-	-	-
Labour		-	0.30	0.45	0.40	0.40
Land Services		0.20	-	-	-	-
Energy		-	0.40	-	-	-
Minor Maintenance		0.34	-	-	-	-

5.2.3 JUSTIFICATION OF FORECAST EXPENDITURE LEVELS

In reviewing operational expenditure proposed for the water plan period, significant expenditure was identified that related to current obligations, and efforts to meet the requirements of these obligations. Of particular note is that in most cases, the expenditure does not form part of the business as usual expenditure from prior periods, but represents new expenditure within the first

regulatory period which will be carried forward into this regulatory period. Details in relation to the more significant items of expenditure are provided below.

The operations of Gippsland Water require an interaction with the region's waterways, as our operations extract surface water from our rivers and creeks, groundwater from aquifers, and return treated water in some areas to these rivers and creeks. For this Water Plan period, Gippsland Water has included a total of $1m in operating expenditure to allow for "River Health" initiatives to support catchment management and groundwater obligations. These obligations are current obligations, but the spending outlined will occur for the first time in this Water Plan period. Initiatives include:

- Understanding the ecosystem impacts of 17 weirs - $0.3m;
- Development of fish passages (priority sites) - $0.4m;
- Funding of a study into the ecosystem health of the Tyers River - $0.2m; and
- Funding of a study into potable water yield impact on aquifer health - $0.1m.

Gippsland Water has also identified a number of new requirements in consultation with the Department of Sustainability and Environment, and in relation to amendments to the Water Act. Gippsland Water has included a total of $0.4m in operating expenditure for these issues. Again, these are current obligations, but the spending outlined will occur for the first time in this Water Plan period. Initiatives include:

- Condition surveys on the effects of works on flora and fauna in relation to the New Holland Mouse, and Wellington Mint Bush. The Dutson Downs property contains populations of the endangered New Holland Mouse, and the vulnerable Wellington Mint Bush - $0.2m;
- Development of a Dutson Downs wetlands management strategy. Minor wetlands have been identified on Dutson Downs that have been heavily impacted by past activities - $0.1m; and
- Development of management tools to ensure that waste management, agribusiness and biodiversity management activities, including the development of a GIS based map of the ecological status of land units on the property, to ensure that proposed activities do not interfere with sensitive ecosystems. - $0.1m.

Gippsland Water has also identified a number of new requirements in consultation with the Environmental Protection Authority. Gippsland Water has included a total of $0.6m in operating expenditure for these issues. Again, these are current obligations, but the spending outlined will occur for the first time in this Water Plan period. Initiatives include:

- Morwell River and Wetlands health survey - $0.2m; and
- Additional sampling and testing in relation to waste water treatment plant "mixing zones" - $0.4m.

Gippsland Water has also identified a number of new, or recently introduced but financially significant requirements, in consultation with the Department of Human Services. Gippsland Water has included a total of $1.2m in operating expenditure for these issues. Again, these are current obligations. Initiatives include:

- Development of risk management plans / CRC eWater project - $0.2m; and

- Ongoing provision of fluoridation - $1.0m.

It should be noted that the costs of fluoridation were incurred for the first time during the 2005/06 financial year, but for comparative purposes, these costs will only be evident for the first time in a full financial year, from 2006/07.

Gippsland Water has responsibility for several dams in the region, including the major storage facility located at Moondarra, and several other strategically located storage facilities that support the provision of water to industry and residential customers. Gippsland Water is obligated to ensure that dam safety at these facilities is in compliance with ANCOLD guidelines. Gippsland Water has included a total of $0.8m in operating expenditure for these issues. Again, these are current obligations. Initiatives include:

- Reviews of Dam safety compliance and seismic studies - $0.2m, and
- Desktop Design Review - $0.6m.

While on an individual basis, none of the expenditure outlined in relation to new spending on current obligations is significant, the combined value of this expenditure is $4.0m in total, or an average of $0.8m per annum in Gippsland Water's operational expenditure of the Water Plan period.

During the development of operational expenditure requirements for this Water Plan, Gippsland Water personnel identified several issues, which while part of "business as usual" expenditure, were considered to be significantly in excess of normal operational requirements. These increases in expenditure stem from changes in circumstances, which are outlined in more detail below.

Gippsland Water operates lagoons for storage and settling of water at water treatment and waste water treatment plants, as well as waste water lagoons used in irrigation. Gippsland Water has undertaken a condition assessment review of these lagoons, which has identified a need for a planned approach to lagoon desludging requirements, rather than the ad-hoc approach that has been in operation previously. While a considerable step forward in terms of the management of this activity, the recognition of the need to plan more professionally in this area has seen a significant increase in costs associated with lagoon desludging requirements. The impact of this on operational expenditure during this regulatory period is significant. Gippsland Water has included a total of $0.5m in operating expenditure for this issue.

Gippsland Water has identified a significant increase in relation to the treatment of biosolids. The main drivers for this are increased work in relation to the handling of wastes removed from water and waste treatment processes, and costs attributable to the handling of wastes from the Gippsland Water Factory.

Gippsland Water has identified additional labour requirements that will be introduced during the Water Plan period to enable the organisation to deliver on operational responsibilities. These new positions include water treatment technicians, support for information technology delivery, a scientific officer to support catchment and resource management, a trainee role in the wastewater treatment area, as well as three positions which are water factory related. The introduction of these new positions will be staggered across the Water Plan period, as is demonstrated by the water treatment technician positions which are planned to commence in 2008/09, 2010/11, and 2012/13.

Gippsland Water has concerns in relation to the cost of electricity, and the significant increases that are currently being flagged by the electricity industry. Advice received by Gippsland Water has led to the inclusion of a 20% increase in the cost of electricity from the 2009/10 year, followed by an additional 5% increase in 2011/12 year. These increases add a combined total of $1.33m to operating costs during this Water Plan period, which are accounted for as follows:

- Water Factory impact - $0.82m; and
- Other business impact - $0.51m.

Gippsland Water has identified significant issues with the creation of easements across the region. Funding totalling $1.1m has been provided over five years of the regulatory period, to allow for the following requirements:

- Surveying and creation of easements, and valuations - $0.5m; and
- legal expenses and easement compensation - $0.6m.

5.2.4 PRODUCTIVITY IMPROVEMENTS OVER THE PERIOD

As outlined in its response to the ESC guidance paper in February 2007, Gippsland Water supports the need for businesses to continually seek productivity improvements, however this does not automatically translate to cost reductions, but rather may result in improved customer service outcomes which are difficult to quantify, help assist businesses absorb larger than CPI price rises for key costs and managing the changing priorities due to drought response.

Accordingly Gippsland Water does not support the Commission position of imposing an arbitrary 1% per annum productivity improvement on water businesses. Gippsland Water indicated that consideration should be given to allowing businesses to propose productivity gains, and demonstrate why such gains are realistic in nature.

Gippsland Water continually seeks to deliver productivity improvements. In any period, and throughout the regulatory period, a number of initiatives will eventuate. Gippsland Water is currently undertaking Enterprise Agreement negotiations, and as such is developing a cost benefit analysis which while not yet complete, will be further developed as the negotiation process proceeds. Gippsland Water is currently facilitating workshops with management teams to identify current and/or future projects. Listed below are a number of projects identified by the Operations Department that may potentially deliver productivity improvements:

- Review & revise Preventative/Reactive Sewer Maintenance;
- Mechanical/Electrical Preventative Maintenance Program Review;
- Chemical saving projects related to the ROS and Treatment Plants;
- Plumbing Contracts; and
- Remote Operator Call In / Mobile solutions / Remote Access.

Gippsland Water also values input from employees, and to this end we are also encouraging through our communication strategy, employees to discuss their thoughts and ideas around what productivity improvements they are able to suggest. Our facilitation program, with a focus on

process improvement will also help to better identify process improvement, leading to productivity improvements.

The difficulty in planning for a five year period, the commencement of which is some two years distant, does create some real concerns when trying to determine the value of any potential productivity savings. As such, defending any adopted level of savings is difficult. Gippsland Water has determined that it will provide for a 0.5% saving across all "business as usual forecast expenditure" in this Water Plan. This 0.5% saving is included in the operational expenditure presented, and amounts to a reduction of $0.2m per annum, or approximately $1.0m over the Water Plan period.

This productivity saving is in addition to Gippsland Water's work to ensure that costs associated with employee turnover, and the subsequent time taken to fill vacancies, which can be significant in determining "real" labour costs, is factored into the budget for labour expenditure. Using historical evidence for support, Gippsland Water has calculated a staff turnover rate of 7.6%. A contingency, based on a vacant position remaining unfilled for two months has been built into labour calculations. This contingency has been set a 1.27% for the duration of this Water Plan. This approach has delivered a reduction of $1.234m for the regulatory period in Gippsland Water's labour budget.

The inclusion of a 0.5% productivity improvement also takes into account Gippsland Water's view that costs budgeted over the period of this Water Plan have already been the subject of significant internal review, prior to inclusion in this plan. The basis for this approach stems from the adoption of a "bottom-up" budgeting process, which has then been overlaid with several internal review mechanisms during the development of the operating costs forecast. During this review process, which included both peer reviews, and a top down review, Gippsland Water has challenged budget holders to defend requests for operational expenditure.

Indeed, this review process identified a number of additional labour positions and other additional costs that would support the enhancement of service provision to customers during the period. These were not pursued in the review process in an effort to limit increasing costs, and to reflect a commitment not to over provide levels of service. This relates particularly to expectations for future changes to obligations, which have not been advised, but could be expected to occur during the regulatory period.

5.3 CAPITAL EXPENDITURE

Gippsland Water outlines below the business's forecasts of capital expenditure for each year of the regulatory period, the key drivers of expenditure, and information to show that the expected levels of expenditure are prudent and efficient.

In presenting this information, Gippsland Water has considered input from several sources that require a significant increase in capital expenditure. It should be noted that this increase is in many cases a result of new obligations that take effect before the commencement of this Water Plan, and as such are not viewed as new obligations in this Water Plan.

Most importantly, in analysing capital expenditure trends, this increase should not be confused with capital expenditure related to current business as usual activities. Gippsland Water at this

point has not determined any new obligations that take effect after 1 July 2008, when this Water Plan commences.

5.3.1 OVERVIEW OF CAPITAL EXPENDITURE

Detailed in Table 29 is an overview of capital expenditure required to allow Gippsland Water to meet its obligations and deliver services during the regulatory period.

Table 29 : Capital Expenditure Forecast

Capital Expenditure forecast
Gippsland Water

	SECOND REG PERIOD				
	2009 2008-09	2010 2009-10	2011 2010-11	2012 2011-12	2013 2012-13
Capital Expenditure Summary					
Water	17.71	14.32	18.88	20.82	26.32
Sewerage	39.23	17.93	23.58	36.07	36.42
Bulk water	-	-	-	-	-
Recycled water	-	-	-	-	-
Rural water	-	-	-	-	-
Total GROSS prescribed BAU capex	56.93	32.26	42.45	56.89	62.74
Government contributions	-	0.50	8.00	0.50	-
Customer contributions	1.37	4.07	4.29	1.91	16.92
Total Contributions	1.37	4.57	12.29	2.41	16.92
Total NET prescribed BAU capex	55.56	27.69	30.17	54.47	45.82

In developing the capital plan for this Water Plan period, Gippsland Water has recognised the outputs of several long term reviews that have determined a need for capital investment in the region. In particular, Gippsland Water has looked to ensure that this capital plan is consistent with the actions outlined by the Victorian Government in the Central Region Sustainable Water Strategy (CRSWS), which was released in November 2006. Expenditure of note in this area relates to the Gippsland Water Factory, and the further review of water supply projects to augment the Latrobe system.

In addition, Gippsland Water has recently completed a Water Supply Demand Strategy (WSDS) for the region. This WSDS is a 50 year forward look at water supply systems, and the demand supply balance for these systems, across the region. Working from the platform provided by the CRSWS, the WSDS detailed a number of actions, including timelines for the implementation of these actions that were required to be undertaken to ensure security of supply into the future.

Further support for the expenditure outlined was derived from the Victorian Government's Country Towns Water Supply and Sewerage Program that aims to improve water and sewerage services to small towns in regional Victoria. In particular, the objectives of the program were to improve the quality of water and sewerage services in country towns currently experiencing environmental and public health impacts. Several towns in the region were identified as priority towns under the program. The expenditure related to this program features clearly in the list of key drivers outlined at 5.3.2.

Gippsland Water has ongoing programs for the addition and renewal of water reticulation and waste reticulation systems. Asset renewal includes replacing or rehabilitating deteriorated assets to return them to a condition whereby they can deliver their required level of service. This expenditure is significant, and is supported by detailed reviews of asset condition and robust forward planning. Planning takes into consideration both proposals for regional development that demand additional works, and risk analysis related to condition and failure predictions for existing infrastructure renewals.

Examples of different types of asset renewals include replacing mechanical or electrical equipment, digging up and replacing water and wastewater pipes, rehabilitating pipes by internal re-lining (without having to excavate and replace pipe sections), rehabilitating manholes and other concrete structures with protective coatings, and overhauling and rebuilding major mechanical plant.

These examples illustrate that once an asset reaches the end of its life it may not simply be replaced with a similar asset. Although this is the case for some assets (eg, mechanical and electrical equipment, motor vehicles, switchboards, office computers etc) it is not always applicable for "civil" infrastructure assets that are an integral part of the system. The renewal strategy for many civil assets, such as buried pipelines or concrete structures such as pump station wet wells, involves substantial in-service rehabilitation to "renew" the service potential of the asset until such time as total replacement is unavoidable. The same approach is also used with major items of mechanical plant that can be "renewed" by overhauling and rebuilding at a lower cost than outright replacement.

Further detail in relation to this capital expenditure is provided in Table 30 and Table 31, where the allocation between water and sewerage services is detailed, along with the category of spend within each area.

Table 30 : Capital Expenditure Forecast – Water Detail

	SECOND REG PERIOD				
	2009	2010	2011	2012	2013
Water	2008-09	2009-10	2010-11	2011-12	2012-13
Headworks	2.57	1.66	4.72	8.40	7.82
Pipelines/network	10.42	9.39	10.92	7.54	12.66
Treatment	3.59	2.24	2.11	3.49	4.69
Corporate	1.13	1.03	1.14	1.39	1.15
Total Water	17.71	14.32	18.88	20.82	26.32

Table 31 : Capital Expenditure Forecast – Waste Detail

	SECOND REG PERIOD				
	2009	2010	2011	2012	2013
Sewerage	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**2012-13**
Headworks	-	-	-	-	-
Pipelines/network	10.18	8.88	9.24	11.32	12.13
Treatment	26.54	7.77	12.92	22.35	22.71
Corporate	2.51	1.28	1.42	2.40	1.59
Total Sewerage	39.23	17.93	23.58	36.07	36.42

Capital expenditure associated with the collection and storage of water, including that relating to dams, reservoirs, bores, river intakes and associated storages and the water transfer mains between storages are included in the headworks category in Table 30 and Table 31. The Moe Groundwater Project (as detailed in section 5.3.2) is a key driver of capital expenditure in this category, within the water segment.

Capital expenditure associated with all mains (network of pipes) and sewer systems utilised for water, sewerage or drainage services are included in pipelines/networks category in Table 30 and Table 31. Key drivers of capital expenditure included in this category are Coongulla and Glenmaggie Waste Systems Projects, both the Water and Sewer Reticulation System Renewals Programs and Warragul – Moe Interconnection Project (as detailed in section 5.3.2).

Capital expenditure associated with treatment, including the treatment of water before it enters the distribution network and the treatment and disposal of sewerage and trade waste are included in treatment category in Table 30 and Table 31. The Loch Sport Servicing Project is one key driver of capital expenditure included in this category (as detailed in section 5.3.2).

General corporate expenditure that cannot be reasonably allocated to other activity areas has been included the corporate category.

5.3.2 KEY DRIVERS OF CAPITAL EXPENDITURE

Information pertaining to the top ten projects/programs included in the Gippsland Water capital plan for the regulatory period follows. The descriptions include details such as the drivers of each project/program and the outcomes that will be delivered by each project. A table for each project details the expected delivery date for the project/program, and the cost of the project/program for each year of the period.

Loch Sport Servicing Project

Loch Sport is a coastal community located between Lake Victoria and the 90 Mile Beach that consists of approximately 2,800 properties, with a peak summer population of up to 10,000 people. The township is not serviced by either a water or a wastewater reticulation system.

In 2004, Wellington Shire commissioned an independent study to determine if there was adverse groundwater contamination within the Loch Sport township. This study concluded that the groundwater was contaminated with human waste, and concluded that the current

wastewater management system (septic tanks) is inadequate and is a health and environmental issue that needs to be addressed.

In July 2005 the Victorian Government through the Department of Sustainability and Environment (DSE) established the Victorian Water Trust to deliver the Country Towns Water Supply and Sewerage Program that aims to improve water and sewerage services to small towns in regional Victoria. In particular, the objectives of the program were to improve the quality of water and sewerage services in country towns currently experiencing environmental and public health impacts. The town of Loch Sport was identified as a priority one town under the program.

In August 2005, Gippsland Water commissioned a concept design for an improved wastewater management system for Loch Sport to investigate innovative, low cost wastewater solutions and develop a sustainable solution to reduce nutrient loads into the Gippsland Lakes.

The development of the project was overseen by a Project Control Group (PCG) consisting of representatives from Gippsland Water, Wellington Shire Council and DSE. A Community Reference Group was formed for the town of Loch Sport to provide a fundamental conduit for passing information back and between the PCG and the wider community. Further community consultation was undertaken by the PCG with absentee owners to enable all community members to have an opportunity for comment.

In the early stages of the concept design, it became evident that the future water supply for Loch Sport required consideration in the development of any improved wastewater solution for the town.

After consideration of a range of benchmarked innovative options for both water supply and also wastewater schemes, the PCG opted for a reticulated sewerage scheme, combined with a wastewater treatment plant and reticulated reclaimed (non-potable) water for the town.

This option will provide a solution to the environmental and health issue in the town being caused by the current septic tank system, and also provide an alternative and sustainable supply of non-potable water to supplement the current potable water supply system (rainwater tanks) to customers.

A business case is currently being developed for consideration by the Gippsland Water Board.

In developing the capital expenditure required for this project, Gippsland Water has identified that contributions will be provided by both the Victorian Government, and individual property owners. While the values in the table reflect gross expenditure, contributions from both the Victorian Government and property owners have been factored into the final capital expenditure, and thus the revenue requirements that tariff calculations are based on.

Project: Loch Sport Servicing Project (Sewerage – Treatment)						
Expected Delivery Date: 2012/13						
Planned Expenditure Details: $45.2m project						
	08/09	09/10	10/11	11/12	12/13	Out years
Year	$0.5m	$0.5m	$5.7m	$19.1m	$19.1m	
Other Comments: $0.2m expenditure prior to Water Plan 2 period						

Coongulla and Glenmaggie Waste Systems Projects

The townships of Coongulla (approximately 240 dwellings), and Glenmaggie (approximately 115 dwellings), are situated on the shores of Lake Glenmaggie in Gippsland, north of the township of Heyfield. Lake Glenmaggie is a source of drinking water for several towns including Coongulla and Glenmaggie and is a source of irrigation water for the Macalister Irrigation District. The lake also has high recreational values for boating and fishing.

Both Coongulla and Glenmaggie townships have a reticulated potable water supply. Houses use on site treatment and disposal of wastewater by means of septic tanks and soakage fields. Many of the allotments are relatively small (less than 1,000m^2) and in areas the ground consists of impervious soils or rock. The small size and ground conditions combined with the proximity to the lake make many of these on site systems potential health and environmental hazards.

In January 2006, the Minister for Water announced funding for 35 priority towns that are listed in the Country Towns Water Supply and Sewerage Program (the program).

In March 2006, Gippsland Water received advice from the Department of Sustainability and Environment, that the townships of Coongulla and Glenmaggie were included in the program, and that a grant of $0.025m had been allocated for the development of a concept design for the provision of sewerage schemes for both townships.

In August 2006, the concept study commenced to identify and evaluate the options for providing a sewerage scheme for these two townships, provide preliminary cost estimates and also provide a recommended option.

In September 2006, a Project Control Group was formed, comprising of representatives from Gippsland Water, Wellington Shire Council, and the Department of Sustainability and Environment. This group was formed to oversee the consultants work on the concept study, and to determine future actions pending the outcome of the concept study, including consultative mechanisms with the residents of both townships.

The concept study was presented to the Project Control Group in March 2007. The study recommended that both townships be provided with a reticulated sewerage scheme, incorporating both gravity and low pressure systems, feeding to lagoon treatment systems to be constructed for each town.

The Project Control Group are progressing the evaluation of the recommendations in order to develop a business case for consideration by the Gippsland Water Board.

In developing the capital expenditure required for these projects, Gippsland Water has identified that contributions will be provided by both the Victorian Government, and individual property owners. While the values in the table reflect gross expenditure, contributions from both the Victorian Government and property owners have been factored into the final capital expenditure, and thus the revenue requirements that tariff calculations are based on.

Project: Glenmaggie Waste System Project (Sewerage – Pipelines/network)						
Expected Delivery Date: 2011/12						
Planned Expenditure Details:$6.4m project						
	08/09	09/10	10/11	11/12	12/13	Out years
Year	$0.8m	$2.5m	$2.5m	$0.3m		
Other Comments: $0.2m expenditure prior to Water Plan 2 period						

Project: Coongulla Waste System Project (Sewerage – Pipelines/network)						
Expected Delivery Date: 2012/13						
Planned Expenditure Details:$14.4m project						
	08/09	09/10	10/11	11/12	12/13	Out years
Year	$0.2m	$0.2m	$1.8m	$6.1m	$6.1m	
Other Comments: $0.1m expenditure prior to Water Plan 2 period						

Sewer Pump Station Rehabilitation and Improvement Program

Gippsland Water has a total of 166 Sewer Pump Stations (SPS's) located in all districts where the Authority provides sewerage services.

These SPS's were mainly constructed about 40 years ago. Gippsland Water has a comprehensive asset management system that ensures that the condition, criticality and performance of these SPS's are routinely measured and monitored, and a long term program for the maintenance and upgrade/replacement of the SPS's is developed to ensure that the sewer systems continue to operate at the required levels of service for customers. This replacement /upgrade program is for the renewal and upgrade of the civil assets as well as the mechanical and electrical assets. This ensures that mechanical or electrical assets are not replaced at a SPS that is scheduled for a major civil rehabilitation or upgrade in a few years time.

The SPS upgrade/replacement program provides a priority list of SPS's that require capital expenditure to continue to provide the required level of service. This prioritised list of SPS's forms the upgrade/replacement program for each year of the Water Plan. The major SPS civil rehabilitation/ upgrades during WP2 involve 3 SPS's at Sale, 1 in Morwell, Trafalgar, Traralgon and Stratford. The mechanical & electrical renewals occur across the 166 SPS's.

Cost estimates for the annual program are based on historical costs for similar upgrade/replacements on SPS's that have occurred in previous periods.

Project: Sewer Pump Station Rehabilitation and Improvement program (Sewerage – Pipelines/network)						
Expected Delivery Date: ongoing program						
Planned Expenditure Details: $10m during period						
	08/09	09/10	10/11	11/12	12/13	Out years
Year	$2.0m	$2.0m	$2.0m	$2.0m	$2.0m	
Other Comments:						

Water Reticulation System Renewals Program

Gippsland Water has approximately 1,900 kilometres of water reticulation pipes. The age and condition of this pipe network varies considerably, with most pipes over 70 years old already replaced. The majority of the pipes installed prior to the 1980's largely comprise of asbestos cement material, whilst the majority of pipes installed since the 1980's comprises of PVC material.

There are other types of pipes installed, particularly pre 1980's, such as ductile iron, steel, concrete lined cast iron, etc. All of these types of pipe material have varying projected service lives, dependent on ground condition, age and operational conditions, such as water pressure and quality.

Over time, and depending on the prevailing ground and operational conditions, the installed pipework deteriorates, such that leaks and eventual failure of the pipe can occur. The assumed useful lives of individual pipe lines are dramatically reduced during periods of prolonged drought, especially in expansive clay soils. Most of Gippsland Water's reticulation is in clay soils with some areas being highly expansive. The expansive clays shrink during droughts and expand in the wet periods, putting bending stresses on the pipes and resulting in failure. In February 2007 there were over 30 water pipe breaks per week. These were mainly due to bending failures due to the drought, rather than the age deterioration of the pipe material.

A comprehensive monitoring program of the installed water reticulation system is in place at Gippsland Water, as part of the asset management system. This process includes recording and tracking every water pipe leak and main break. A risk based assessment is undertaken every year of every pipe segment in the reticulation. This includes a structural and serviceability condition grading, based on pipe material and age, and a criticality grading, resulting in an estimated remaining service life of every pipe segment (segments normally between intersecting roads in urban areas) . From this analysis, a long term rolling renewal program is developed to ensure that levels of service can be maintained.

The pipe renewal requirements from the risk matrix results in a length of pipeline requiring renewal within 1, 2, 5, 10, fifteen and twenty years. The cost estimates for this program are based on historical costs for similar upgrade/replacements that have occurred in previous periods. The analysis undertaken in 2006/07 resulted in a cumulative replacement cost of $22m for "renewal anticipated within 10 years". This cost estimate is the basis for the annual $2.1m pipe renewal program allocation during this regulatory period and involves approximately 5km of water main replacements per year.

A full description of the risk model for renewal of water mains is included in Gippsland Water's Treated Water Activity Management Plan.

Project: Water Reticulation System Renewals Program (Water – Pipelines/network)						
Expected Delivery Date: ongoing program						
Planned Expenditure Details: $10.5m during period						
	08/09	09/10	10/11	11/12	12/13	Out years
Year	$2.1m	$2.1m	$2.1m	$2.1m	$2.1m	
Other Comments:						

Sewer Reticulation System Renewals Program

Gippsland Water has approximately 1,200 kilometres of reticulation sewer pipes. The sewer pipe network is of variable age and condition, and there is a constant challenge to keep pace with increases in the volume of waste streams being collected and treated.

The sewer reticulation systems are not perfectly sealed and stormwater infiltration presents a major contribution to flow after high, or long period, rainfall events. Also, invasion of tree roots, ground conditions, construction activity and drought can cause pipes to crack and/or break.

A comprehensive monitoring program of the installed sewer reticulation system is in place at Gippsland Water, as part of the asset management system. This program determines the condition and remaining service life of the installed pipework, and a long term rolling program of replacement of poor condition pipework is developed and updated annually, to ensure that levels of service can be maintained.

The annual Sewer Reticulation Renewal program is prepared/updated annually using a Risk Based model. This involves allocating a remaining useful life to every sewer segment (between adjacent maintenance holes) based on the pipe material and construction date. The serviceability of each pipe segment is then assessed from the asset management /maintenance system by analysing every sewer failure/blockage over the last decade. Each sewer pipeline is also allocated a criticality rating depending on the consequences of a failure. The resulting Renewal Decision Risk Matrix results in a list of sewer segments that have an estimated renewal date and a list of segments that require CCTV inspection and re-inspection for the next 1, 2, 5, 10, fifteen and twenty years.

The final annual sewer rehabilitation/renewal program is only determined following completion of the detailed CCTV inspection on the candidate pipelines from the risk matrix. The CCTV data analysis scores every defect and results in a structural and serviceability condition grade in accordance with the WSA Conduit Inspecting and Report Code. This detailed CCTV data is used to determine the most appropriate rehabilitation or renewal treatment for each pipe segment (between maintenance holes). This decision depends on the condition of the house branches as well as the extent of the sewer main defects. Any sewer relining also includes the installation of a lining at each house branch connection to minimise infiltration of groundwater and tree roots and optimise the service life from each asset segment.

The coarse condition analysis, based on pipe material and age, results in a 10 year rehabilitation/renewal program of $18m; or an annual program 9km of pipe rehabilitation at a cost of $1.8m. The cost estimates for the annual program are based on historical costs for similar upgrade/replacements that have occurred in previous periods. Gippsland Water has only undertaken limited (approximately 5km) annual CCTV inspections in recent years; and this has been increased to 16km in 2006/07, and will increase to 26km per annum during this regulatory period. However, the actual sewer rehabilitation program is only determined after detailed analysis of CCTV data. It has been assumed that the extent of sewers requiring rehabilitation will increase as the amount of pipelines are CCTV'd each year. Therefore the budget for this regulatory period shows a ramping up of the expenditure for annual sewer rehabilitations from approximately 5km to 7.5km. A full description of the Risk Model for rehabilitation / renewal of sewers is included in Gippsland Water's Wastewater Activity Management Plan.

Project: Sewer Reticulation System Renewals Program (Sewerage – Pipelines/network)						
Expected Delivery Date: ongoing program						
Planned Expenditure Details: $6.0m during period						
	08/09	09/10	10/11	11/12	12/13	Out years
Year	$1.0m	$1.0m	$1.2m	$1.2m	$1.5m	
Other Comments:						

Moe Groundwater Project

Gippsland Water's recently completed Water Supply Demand Strategy (WSDS) was a 50 year forward look at water supply systems, and the demand supply balance for these systems, across the region. The WSDS detailed a number of actions that were required to be undertaken to ensure security of supply into the future. The WSDS was approved by the Gippsland Water Board in April 2007. The WSDS also identified timelines for each of the actions listed.

Raw water is currently supplied to the Moe Water Treatment Plant primarily from Narracan Creek, and supplemented in the drier months from a pumped supply on the Tanjil River, sourced from Blue Rock Reservoir.

The WSDS identified that demand is forecast to exceed supply in the Moe system by 2043 under long-term average conditions, while there is a current shortfall of 169 ML under continuing low inflow conditions. The results of the low inflows scenario, combined with the reliance on a small creek for winter supplies, and the ever increasing demands from power generators on Blue Rock Reservoir, and the pressure this has on urban water supplies from the same summer time source, required Gippsland Water to consider actions to augment the Moe system, or face significant water shortfalls in the future. Action 22 of the WSDS provides for a groundwater augmentation.

Gippsland Water has been working with the Department of Sustainability and Environment, and Southern Rural Water in recent months to understand the current level of water allocated from groundwater reserves, and limits that will be imposed on further extractions.

Consultants from GHD have been engaged since late 2006 to assist in the development of a desk top study to consider likely locations for extraction, and begin the task of assembling information to support the licence approvals process. In March 2007, Gippsland Water applied for a groundwater licence for the Moe Swamp Basin aquifer, to supplement the Moe water supply.
This action will include transfer of an existing groundwater licence held by Gippsland Water for the town of Yarragon.

Project: Moe Groundwater Project (Water – Headworks)						
Expected Delivery Date: 2012/13						
Planned Expenditure Details: $8.0m project						
	08/09	09/10	10/11	11/12	12/13	Out years
Year	$0.1m	$0.2m	$1.0m	$3.4m	$3.4m	
Other Comments:						

Warragul – Moe Interconnection Project

Gippsland Water's recently completed Water Supply Demand Strategy (WSDS) was a 50 year forward look at water supply systems, and the demand supply balance for these systems, across the region. The WSDS detailed a number of actions that were required to be undertaken to ensure security of supply into the future. The WSDS was approved by the Gippsland Water Board in April 2007. The WSDS also identified timelines for each of the actions listed.

Raw water is supplied to the Warragul Water Treatment Plant from Pedersen Weir on the Tarago River upstream of Tarago Reservoir, with a supplementary supply in the drier months from Tarago Reservoir. The treatment plant supplies Warragul, Drouin, Buln Buln, Rokeby, Warragul South, Nilma and Darnum).

The WSDS identified that demand is forecast to exceed supply in the Tarago system by 2009 under long-term average conditions, while there is a current shortfall of 1,564 ML under continuing low inflow conditions.

Action 6 of the WSDS provides that "to improve supply security and address projected supply shortages in the towns of Warragul and Drouin, Gippsland Water will connect the Moe and Tarago water supply systems, constructing a pipeline between the towns of Yarragon and Warragul".

This action was considered essential in the Water Supply Demand Strategy, as the Tarago Reservoir will be used extensively to support the growing needs of Melbourne's south east corridor. As such, Gippsland Water's access to Tarago water will be limited, and this interconnection will provide for security of supply to the Warragul water supply system.

Project: Warragul – Moe Interconnection (Water – Pipelines/network)						
Expected Delivery Date: 2013/14						
Planned Expenditure Details: $11m project to be completed in two stages						
	08/09	09/10	10/11	11/12	12/13	Out years
Year	$0.1m	$0.5m	$3.3m	$0.9m	$3.1m	$3.1m
Other Comments:						

Shared Assets (regional development)

Several potential infrastructure projects have been identified that need to be constructed during the regulatory period that are classed as Shared Assets (as outlined in the Water Industry New Customer Contribution Guidelines). The outcome of each project will allow for new development to be connected to existing infrastructure.

Gippsland Water works closely with each of the Councils to understand the future subdivisions and future rezonings. Proposed assets within the township of Warragul have been identified as a result of the Councils intention to rezone certain parts of the township. In the Morwell-Traralgon corridor, the need for additional residential land has been highlighted. There is an inquiry currently underway regarding the decision for the Traralgon Bypass, with initial determinations due by the end of June 2007. The release of the Latrobe City Council's Morwell-Traralgon Structure Plan also indicates potential rezoning of land. In addition,

Gippsland Water liaises with Developers to extend assets to appropriately zoned undeveloped land.

The delivery dates for individual projects are different, and as the projects are dependant on developers to subdivide, the timing of construction and commissioning activities for these assets may vary significantly.

Project: Shared Assets (regional development) – (Water – Pipelines/network)						
Expected Delivery Date: ongoing program						
Planned Expenditure Details: $6.9m during period						
	08/09	09/10	10/11	11/12	12/13	Out years
Year		$0.2m	$1.4m	$1.3m	$4.0m	
Other Comments:						

Gippsland Water Factory – Micro Hydro / Bio Gas Projects

A Business Case for the construction of Micro Hydro and Bio Gas generation facilities, as an addition to the Gippsland Water Factory Project was submitted to both DSE and DTF on the 29 November 2006. The Business Case was prepared consistent with both the Business Case guidelines developed by DSE and the DTF Gateway process.

The Business Case demonstrated that the Micro Hydro and Bio Gas generation projects:

- were Net Present Value (NPV) positive, (i.e. from a financial perspective the operating cash savings outweigh the capital expense);
- were the favoured option from a triple bottom line perspective (i.e. the only option that provided a positive TBL outcome when compared to the 'do nothing' and the 'green power' options); and
- reduced the tariff impact from an affordability perspective (i.e. the annual average tariff actually reduces from the 'do nothing' case.

Accordingly the Business Case recommended to the Minister for Water and the Treasurer that these two projects be approved to proceed as part of the Gippsland Water Factory project. The total capital cost for both the Micro Hydro and Bio Gas Generation units including the transmission line from Pine Gully to the Gippsland Water Factory site has been estimated at $4.3m, comprising $2.0m for the Micro Hydro component and $2.3m for the Bio Gas component.

On 20 March 2007, the Department of Treasury and Finance advised that the Treasurer had given his approval to proceed with these two projects.

Project: Micro Hydro / Bio Gas Projects (Sewerage – Treatment)						
Expected Delivery Date: 2008/09						
Planned Expenditure Details: $4.3m during period						
	08/09	09/10	10/11	11/12	12/13	Out years
Year	$4.3m					
Other Comments:						

Gippsland Water Factory – Amenities Facility

As part of the Gippsland Water Factory, a multi-function amenities centre will be constructed. The interpretive design team embodied within the Gippsland Water Factory Alliance has developed a concentrated, flexible exhibits plan with a strong community educational emphasis. The content of which will explain the technical workings of the Gippsland Water Factory, promote the work of Gippsland Water in developing sustainable water sources, emphasise personal responsibility in conservation and stewardship of water through understanding integrated water management concepts and practices.

Exhibit characteristics will be flexible and mobile, allowing for multiple uses of the same spaces. The exhibits themselves will comprise of a variety of technologies from hands on models through to interactive computer display. A flexibility of content will allow the messages to change as circumstances dictate. The pitch will be at a variety of levels for a variety of audiences and self guiding.

Four focus group sessions were held during February 2007 comprising both domestic customers and potential facility users. The objective of these sessions was to gauge the level of support for the functionality of the proposed amenities centre. Feedback from these sessions concluded that the community was in favour of such an investment, as it would-

- Educate people about the waste treatment technologies and the use of recycled water (i.e. improve water literacy);
- Provides a venue to explore the topical subject of water and the issues current and future generations are facing;
- Promotes the history and future sustainability of the area;
- Provide a modern, interactive, education centre that could be incorporated into school curriculum; and
- Appeal to a broad range of different audiences – education, business, industry, scientific specialists and the general community.

Project: Amenities Facility (Sewerage – Treatment)						
Expected Delivery Date: 2008/09						
Planned Expenditure Details: $4.9m during period						
	08/09	09/10	10/11	11/12	12/13	Out years
Year	$4.9m					
Other Comments:						

5.3.3 OTHER CAPITAL EXPENDITURE OF COMMUNITY INTEREST

The projects listed in section 5.3.2 are the top ten projects in terms of capital investment, and will be of significant interest to the community. Some additional capital projects, while less significant in terms of the level of expenditure are equally significant to small local communities.

Projects that Gippsland Water considers are of this nature, and will be carried out during the period of this Water Plan include:

- Boolarra water supply augmentation – a project to connect the Boolarra township to the Moondarra water supply system, which currently ceases at Yinnar ($2.2m);
- Drouin Wastewater Treatment upgrade ($3.4m);
- Mirboo North – Groundwater augmentation ($1.7m);
- Sale Water Treatment Plant upgrade ($3.7m);
- Seaspray – Raw Water Storage Basin ($0.9m);
- Thorpdale – Groundwater augmentation ($0.7m); and
- Warragul – Groundwater augmentation (commencement) ($1.5m).

5.3.4 PRUDENT AND EFFECTIVE CAPITAL EXPENDITURE LEVELS

The difficulties in developing a capital expenditure program for a five year period, with an end date some seven years distant are significant. Gippsland Water identified several key issues that required resolution during the development of the capital expenditure plan to ensure that proposals put forward in this Water Plan were both prudent and efficient.

The key issues identified were:

- Understanding the drivers that require the capital expenditure to be undertaken;
- The need for risk/criticality assessments to allow for prioritisation of projects in conjunction with drivers;
- The development and application of defendable timeframes for pre construction activities, in recognition of the planning and consultation process that proceeds all major, and many mid sized capital works projects;
- The availability of skilled resources, both within Gippsland Water, and also within external consulting and contracting establishments to support the capital expenditure plan;
- Estimate accuracy for works included in the Water Plan, but yet to be subjected to any level of scrutiny that a reasonable basis for estimation could be based on; and
- The estimated fall of expenditure for all projects, large or small, given the funding and tariff implications that may result from this area.

Gippsland Water's approach to each issue in the development of the capital expenditure plan is outlined in detail in appendix 6.

<u>Activity Management Plans</u>

Gippsland Water has undertaken a review of its approach to the provision of services. The organisation has committed to the ongoing development of Activity Management Plans which provide consolidated plans to enable Gippsland Water to deliver the services expected by our customers into the future.

The new approach to service provision includes:

- how long-term planning for the future is carried out;
- how the community, stakeholders and customers are consulted and their views taken into account;
- how services are provided and managed;
- how decisions are made (and the necessity to be more aware of the likely future economic, environmental, social and cultural consequences of every decision); and
- the requirement to work in a more inclusive, integrated, and co-ordinated way (both within the organisation and with other external organisations) towards the achievement of common, supported and desired community outcomes.

The principal aim of Activity Management Plans is to develop a corporate-wide integrated management system that takes account of all of the above and which will significantly contribute towards putting future management of all of Gippsland Water's affairs on a "best practice" footing, by incorporating all social, economic & environmental aspects to achieve sustainable outcomes.

Activity Management Plans are currently in place for treated water, treated waste and bulk waste, with plans for bulk water currently under development. Each plan contains sections for each system detailing renewals, augmentation and asset creation rules for the system and each class of asset.

Activity Management Plans will allow Gippsland Water to demonstrate that high level systems and controls are in place to establish the service levels for its various activities, and the financial and asset management implications of service level decisions.

5.4 DEALING WITH UNCERTAINTY

In the development of this Water Plan, Gippsland Water has been acutely aware of the significant uncertainty surrounding water supply shortfalls. This is in turn reflected in the requirement for a variety of short and long term augmentation options to deliver security of supply across the region, depending on the selection of either a "median climate change" scenario, or a "continued low inflows" scenario.

In electing to base this Water Plan on the "continued low inflows" scenario, Gippsland Water has ensured consistency with its recently released Water Supply Demand Strategy, and the Victorian Government's Central Region Sustainable Water Strategy which also modelled the "continued low inflows" scenario.

The level of uncertainty with regard to security of supply is of such significance, and the potential levels of expenditure so large, that its handling in this Water Plan warrants serious discussion and a high level of understanding by all concerned.

Gippsland Water has adopted the approach that it is preferable to identify projects with significant levels of uncertainly and significant cost, and raise awareness of the issues surrounding these projects, without including these projects in proposed operating and capital expenditure plans. To do otherwise would generate a substantial revenue requirement, and a significant impact on tariff outcomes, which may not be justifiable in the longer term. Once full

consideration can be given to all the issues, the selection from what are now a series of options will identify a preferred action.

5.4.1 WATER SECURITY INVESTMENT STRATEGY - LATROBE SYSTEM

While Gippsland Water has included several water supply augmentation projects, based on actions contained within both the Victorian Government's Central Region Sustainable Water Strategy, and the Water Supply Demand Strategy (refer section 5.3.2), the major augmentation issue surrounding the Latrobe System has been excluded from operating and capital expenditure presented in this Plan.

Currently under development, the Water Security Investment Strategy for the Latrobe System is a long-term strategic response by Gippsland Water to the effects of reduced water yields in the Latrobe system.

The Latrobe River basin is the major source of catchment run-off for Gippsland Water. Stream-flow in the Latrobe River and a number of its tributaries is captured in reservoirs and smaller storages to supply Gippsland Water's surface water systems. Approximately 80% (or 62,000 ML/a under Gippsland Water's Bulk Entitlement) of the water supplied by Gippsland Water is stored in the Moondarra Reservoir located on the Tyers River. The other major water source within the Latrobe catchment is Blue Rock Dam, in which Gippsland Water has a bulk entitlement share (12.4% or 25,800 ML at full capacity) located on the Tanjil River. Minor inflows are also available from the Narracan Creek, particularly in the winter period.

The storage capacity of Moondarra Reservoir is 30,300 ML whilst Gippsland Water's average annual limit on usage from Blue Rock Dam is 15,450 ML. In order for Gippsland Water to meet its annual demand obligations the Latrobe system yield (streamflow) must be sufficient to fill Moondarra Reservoir the equivalent of twice per year. This attribute means that Gippsland Water's system security is directly correlated to variations in rainfall and run-off in the region.

The Central Region Sustainable Water Strategy (CRSWS) states that over the past 10 years inflows to the Latrobe systems reservoirs have been 21% less than the long term average. Extensive climate change modelling scenarios anticipate falling system security over the short, medium and longer terms. Indeed, under continued low flow scenarios Gippsland Water has an immediate shortfall. In addition, reduced inflows mean that reliability of water supplies is reduced. Modelling undertaken in the CRSWS targeted a reliability for the Latrobe system's water supplies at 95%. The 95% security of supply target implies that water restrictions are in place for 5% of the time. The CRSWS concluded that if low flow conditions continue then system security could fall to 88%. Given that Gippsland Water has identified that over 80% of its total demand is required by either Australian Paper or the State's base load power industry, the strategic importance of these industries to the Victorian economy suggests a target reliability of 100% should be met.

The proposed variation to the Gippsland Water Statement of Obligations (August 2006) obligated Gippsland Water to incorporate the outcomes of the CRSWS as follows: "The Authority must:

- manage its demand and supply balance to ensure it can meet demand for a minimum of seven years;

- develop a program of works or initiatives to secure water supplies beyond seven years, and
- ensure the program of works or initiatives is consistent with any Victorian Government Sustainable Water Strategy and subject to customer consultation on the costs and benefits of different demand management and supply initiatives."

The Central Region Sustainable Water Strategy proposed a range of immediate contingency and ongoing actions to provide enough to meet the low inflow shortfalls and provide a buffer supply of water. These immediate actions were detailed as follows:

- conservation and efficiency programs for homes, businesses, and the water distribution system to start immediately (4,100 ML/a by 2015);
- Stage 1 of the Gippsland Water Factory to be completed by 2010 (3,000 ML/a); and
- access to water freed-up through the Eastern Water Recycling Plant by 2015 should the Business Case be successful. Alternatively, Gippsland Water will investigate implementing stage 2 of the Gippsland Water Factory, and groundwater opportunities.

The CRSWS included a sustainability assessment to identify the major strategies for meeting the longer term water needs of the Central region under continued low flow and long term average conditions. The four major longer term strategies are as follows:

- Conservation and Efficiency - Reducing the amount of water used by eliminating wastage, the introduction of more efficient appliances and/or processes and reducing demand;
- Alternative Sources of Water - Reusing and Recycling Water - Collection and treatment of wastewater and stormwater for non potable use;
- Interconnecting water supply systems and expanding water markets - Interconnecting systems does not create water, but provides greater flexibility in water management, allowing water to be moved from areas with high supply and excess demand to areas where demand exceeds supply, and
- Augmenting Current Urban Supply Systems - Includes actions such as reintroduction of existing infrastructure, harvesting more water from rivers, harvesting more water from ground water sources, or utilising seawater treated by desalination plants.

Gippsland Water has investigated a range of projects and actions under each of these broad strategies, as a part of its Water Supply Demand Strategy. More specifically, Gippsland Water analysed each of the strategies in the context of meeting their security of water supply requirements in the Latrobe System.

5.4.1.1 CONSERVATION & EFFICIENCY

A number of conservation and efficiency projects were identified to assist in meeting demand across residential, small to medium enterprise, major industry and irrigation sectors. Given the large proportion of water demand in the Latrobe System used by major industry, conservation and efficiency projects will need to be focused in this sector.

The only significant projects, capable of providing a material change in security of supply, are onsite water management upgrades by Australian Paper and Energy Brix, which have the

potential to save 6.7 GL/a. This does not provide the volume required to meet the water security requirements.

Conservation and efficiency projects rely on significant and ongoing behaviour change, not all of which is within the control of Gippsland Water. As a result, Gippsland Water cannot rely on these savings to permanently reduce water demand, particularly where there is a negative cost impact on the customer.

5.4.1.2 REUSE AND RECYCLING

A number of reuse and recycling projects have been identified to assist in meeting security of supply requirements in the Latrobe water supply systems. These projects include:

- Gippsland Water Factory (Stage 2): Treatment of wastewater currently discharged in the Regional Outfall Sewer (ROS) for reuse by industrial customers;
- Desalination of power station blow down effluent in the Saline Waste Outfall Pipeline (SWOP); and
- Desalination of the Australian Paper (AP) river discharge for subsequent reuse by AP.

5.4.1.3 SYSTEM INTERCONNECTION

The CRSWS identifies a number of potential interconnection projects within the Central region to achieve increased security of supply. Only one of the identified interconnections, the transfer of recycled water from the Eastern Treatment Plant to Latrobe Valley (i.e. the Eastern Water Recycling Project - EWRP), provides a new source of water to enhance security of supply for Gippsland Water.

5.4.1.4 SUPPLY AUGMENTATION

The Gippsland Water Water Supply Demand Strategy has identified a number of augmentation projects which could enhance water security. These projects include:

- Negotiating an increase in the Bulk Water Entitlement (BWE) from the Blue Rock dam,
- Raising the Moondarra dam wall by up to 3 metres; and
- Provision of infrastructure to transfer groundwater sourced from the Moe region into the Latrobe System.

5.4.1.5 STRATEGIC ANALYSIS

The strategic analysis within the Water Security Investment Strategy for the Latrobe System identified supply augmentation as the strategy most likely to provide adequate security of supply to Gippsland Water, followed by Re-use and Recycling. External specialist consulting engineers were engaged to assist to further scope and cost the various projects within the two identified strategic options. These projects were:

Supply Augmentation

- Seek a permanent BWE increase from Blue Rock Lake ("BWE increase");
- Augmentation of the Moondarra Dam Wall ("Dam Wall extension"); and
- Access and transfer groundwater from Moe to the Latrobe System ("groundwater augmentation").

Re-use and Recycle

- Treat and reuse wastewater currently discharged via the ROS ("Gippsland Water Factory Stage 2");
- Treat and reuse wastewater from the Saline Water Outfall Pipeline (SWOP) ("Desalination of SWOP"); and
- Treat and reuse wastewater from Australian Paper ("Desalinate AP waste stream").

Work continues on the Water Security Investment Strategy for the Latrobe System, in particular around determining the cost of the projects listed, and the evaluation of these options using a triple bottom line approach, to account for social and environmental considerations, in addition to issues of a financial nature.

5.4.1.6 PROJECT COSTS

In work undertaken to date, Gippsland Water has determined that the cost of a Latrobe System Investment will be significant. Estimates currently range from $20m to $150m in capital expenditure requirements alone. A review of potential operating costs has determined that an additional $7m of operating expenditure would be required annually, depending on the option selected.

At their highest levels, these expenditures represent –

- An additional 58% on capital expenditure included within this Water Plan; and
- An additional 12% on operational expenditure included within this Water Plan.

As outlined, in this Plan Gippsland Water has adopted the approach that it is preferable to identify projects with significant levels of uncertainly and significant cost, and raise awareness of the issues surrounding these projects, without including these projects in proposed operating and capital expenditure plans. To do otherwise would generate a substantial revenue requirement, and a significant impact on tariff outcomes, which may not be justifiable in the longer term. Once full consideration can be given to all the issues, the selection from what are now a series of options will identify a preferred action.

Gippsland Water continues to work closely with the Victorian Government to ensure that issues surrounding the Latrobe system are clearly understood, and can be accounted for in the plans for long term water management across the state.

5.4.2 DEVELOPMENT OF MANDATORY WATER MANAGEMENT PLANS

The Department of Sustainability and Environment has recently advised Gippsland Water of the state-wide implementation of a water conservation initiative targeting non-residential

customers, which requires the development of Mandatory Water Management Plans (WaterMAPs)by all non-residential customers who consume greater than 10 ML of potable water per annum.

At present a draft framework for the implementation of Mandatory Water Management Plans has been released which outlines the expectations of the Department of Sustainability and Environment. The framework includes:

- A process that requires targeted non residential customers to register with Gippsland Water during July 2007;
- A requirement that all targeted customers lodge an action plan by 31 October 2007 which outlines actions to be implemented to reduce potable water consumption;
- A requirement for mandatory water conservation signage near water using fixtures within businesses by 31 October 2007;
- A requirement that businesses report annually to Gippsland Water on WaterMAP implementation;
- A requirement to extend the action plan to cover long term issues that may require changes to business operations or processes. Which must be lodged with Gippsland Water by 30 June 2008; and
- A requirement for Gippsland Water to review all plans submitted, and work with customers to enhance submissions, and ensure that action items are implemented.

In discussions with the Department of Sustainability and Environment to date, there is an expectation that Gippsland Water will be required to provide resources to support non residential customers with the development and implementation of Water Management Plans.

In consolidating this Water Plan, Gippsland Water has not provided for any additional resources to support the development of Mandatory Water Management Plans, as the extent of Gippsland Water's involvement in the process remains unclear. In addition, while the framework outlines a timeframe for the rollout of this initiative, the significant scale of such a rollout across the Gippsland region should not be downplayed, and implementation activities may well extend beyond the proposed 30 June 2008 target. Another issue yet to be confirmed is the potential requirement for Gippsland Water to co-fund the implementation of projects.

Gippsland Water will work with the Department of Sustainability and Environment during the period leading up to submission of the final Water Plan in early October 2007, and seek to determine with greater certainty any additional requirements to progress implementation of Mandatory Water Management Plans. Any requirements will be included with the support of the Department of Sustainability and Environment in the final Water Plan.

5.4.3 TRADE WASTE MANAGEMENT REVIEW

The Department of Sustainability and Environment commenced a State-wide review of trade waste management in late 2004. It is one of the actions to make smarter use of water in our cities and towns identified in the Victorian Government White Paper Securing Our Water Future Together and the Council of Australian Government's National Water Initiative commitment to review trade waste pricing policies.

A draft Future Directions Statement issued by DSE in March 2007 outlines the major conclusions of the review and outlines actions to be undertaken to implement changes to the current trade waste management framework.

The actions outlined in the draft Directions Statement aim to:

- Improve the quality of trade waste over the long term with the aim of facilitating the reuse of treated water and biosolids;
- Reduce environmental impacts of trade waste;
- Introduce cleaner production and resource conservation throughout the entire trade waste pathway; and
- Improve public accountability and effectiveness of management throughout Victoria.

Gippsland Water has supported a consolidated response to the Future Directions Statement from the Regional Urban Water Authorities (RUWA's) to reinforce the need for further consideration and revision of the Trade Waste Review by DSE. Concerns raised by Gippsland Water include:

- The review is largely focused on Melbourne and views a 'one size fits all' framework that does not acknowledge the diverse operational and commercial characteristics of Regional Water Authorities such as Gippsland Water;
- The appointment of the EPA as technical regulator will reduce the capacity of RUWA's to effectively manage Trade Waste and will most likely lead to an inefficient generic management approach;
- The "Proposed Regulation Model" diagram shown in Section 4 on "Regulation" shows a regulatory role for Sustainability Victoria yet this is not discussed in this Section or any other part of the Statement. Gippsland Water is not clear whether there is a proposed change of role for Sustainability Victoria or not;
- The application of state wide 'load based pricing' would prove problematic for Gippsland Water given the diversity of our customer base;
- Timeframes for the RUWA's to implement the proposed review's actions are minimal and unrealistic; and
- The additional work required in implementing the reports proposed actions, in particular increased regulation, reporting and monitoring will lead to unnecessary cost for our customers.

The Statement proposes that the recommended actions are reflected in this Water Plan. Given the lack of agreement over the draft Directions statement at this time, Gippsland Water has not included funding to cater for any new or additional requirements in this Water Plan.

5.4.4 TRIGGERS FOR REOPENING A TARIFF DECISION

Gippsland Water has adopted the approach not to include operating and capital expenditure in this Water Plan for significant investment decisions where a high degree of uncertainty currently exists. Should the level of certainty improve sufficiently before the issue of the final Water Plan in early October 2007, Gippsland Water will look to include these projects in the financial requirements of the final Water Plan.

Where a project is not included in the final Water Plan, Gippsland Water will need to seek agreement with the Essential Services Commission on a trigger mechanism that will allow for the re-opening of a tariff decision, should an investment decision subsequently be taken within the period of this Water Plan.

5.5 FINANCING CAPITAL INVESTMENT

Under the provisions of the WIRO Gippsland Water may recover the cost of financing existing and new investments through:

- Earning a return on the value of the Regulatory Asset Base (RAB) (i.e. the weighted average cost of capital multiplied by the RAB); plus
- A return of the value of the RAB (i.e. regulatory depreciation).

5.5.1 UPDATING THE REGULATORY ASSET BASE

On 9 March 2005, pursuant to section 14 (a) (iv) of the WIRO, the Minister for Water advised the ESC of the RAB to apply to each water business as at 1 July 2004. Gippsland Water's RAB was set at $156m.

Prices for the first regulatory period were based on these initial values adjusted annually in the following manner:

Opening RAB
Plus forecast gross capital expenditure
Less forecast customer and government contributions
Less forecast proceeds from disposal of assets
Less regulatory depreciation
Equals closing RAB

The value of the RAB at the start of this regulatory period needs to be updated to reflect the value of efficient and prudent capital expenditure, customer and government contributions and disposals.

The ESC's 2008 Water Price Review Guidance Paper, March 2007 states that the ESC's preferred approach to determining the RAB at 1 July 2008, is to adopt the standard regulatory approach of using the actual capital expenditure, contributions (from government and customers), and proceeds from disposals for the period 1 July 2004 to 30 June 2006 and the estimated forecasts of capital expenditure, contributions and disposals used in the 2005 Urban Water Price Review to determine the revenue requirement for 2007/08. The regulatory depreciation used in determining the opening RAB is that forecast in the 2005 review. The ESC proposed that an adjustment would be made in 2013/14 for any difference between assumed and actual net capital expenditure for 2007/08 when the opening RAB is calculated for the regulatory period. Following concerns raised by a number of water businesses including Gippsland Water, the ESC has indicated that it is willing to consider the use of updated forecasts for 2007 where a compelling case for doing so exists.

Under the ESC's regulatory framework, Gippsland Water's opening RAB of $156m is indexed to $167.7m when calculating the value of the RAB at 1 July 2008. (2006/07 March Quarter Annual CPI/2003/04 March Quarter Annual CPI x $156m= 151.9/141.3 x $156m = $167.7m).

Gippsland Water's forecast customer contributions, proceeds from disposals and regulatory depreciation are consistent with the 2005 Urban Water Price Review.

The timing of receipt of government contributions towards the Gippsland Water Factory project has been adjusted to reflect actual receipt of contributions.

Gippsland Water's forecast capital expenditure for 2007/08 has been updated to reflect the final approved project estimate for the Gippsland Water Factory project.

Table 32 shows the calculation of the value of the RAB across the regulatory period and at 1 July 2008 based on actual outcomes where available.

Table 32: Calculation of RAB at 1 July 2008

	Actual		Forecast	
$m, 1/1/07	2004-05	2005-06	2006-07	2007-08
Opening asset base	167.70	179.39	172.27	204.17
plus Gross capex	24.03	43.08	59.69	142.19
less Government contributions	-	39.72	16.87	-
less Customer contributions	4.27	1.67	0.98	0.50
less Proceeds from disposals	0.81	0.69	0.82	0.79
less Regulatory depreciation	7.26	8.12	9.11	10.20
Closing asset base	**179.39**	**172.27**	**204.17**	**334.86**

Gippsland Water Factory revised project estimate

Gippsland Water's first Water Plan capital expenditure forecast contained a project estimate of $110m for the Gippsland Water Factory project. The forecast fall of this expenditure in Gippsland Water's first Water Plan was:

2004/05 $5m
2005/06 $5m
2006/07 $44m
2007/08 $51m
2008/09 $5m

On 24 August 2006, Gippsland Water received final approval from the Treasurer of Victoria for the project to proceed. The final approved capital expenditure for this project is $173.9m. The forecast fall of this expenditure is:

2004/05 $1.9m
2005/06 $9.7m
2006/07 $34.0m
2007/08 $115.3m
2008/09 $13m

Accordingly, Gippsland Water's capital expenditure for 2007/08 has been adjusted to account for the difference between the original forecast estimate and the final approved project estimate.

As part of the assessment of the project estimate shortfall a detailed investigation was undertaken to determine where the differences existed between the original business case capital and the final approved capital estimate. Although a detailed direct comparison is very difficult and complex due to differences in the level of design development when the estimates were established, the differences can be characterised into two primary areas:

- Significant increases in the cost of construction during the period 2003/04 to 2005/06; and
- Underestimated elements of the original Business Case estimates to address further development in the technical requirements.

It is worth noting that most of the non escalation variance occurs in the treatment plant. The transfer system has some variance with individual elements due to changes in scope to optimise the design approach, but is quite close to the original estimate. Furthermore, much of the reasoning for the modifications to the technical scope of the treatment plant is based on the process due diligence work resulting from the pilot plant.

In light of the capital estimate being higher than the original project capital expenditure budget, the Gippsland Water Factory Alliance was asked by Gippsland Water to confirm that the option chosen still represented the most capital efficient solution of the options detailed and presented within the Business Case.

The results of this assessment are shown in Table 33:

Table 33: Comparison of Original Options with revised Capital

Option	Business Case CAPITAL	Revised CAPITAL
1. Pipe the ROS	$209m	$196m
2. Treatment at Rosedale	$187m	$246m
3. GWF (Standalone)	$137m	$171m
4. GWF (Full Re-use)	$173m	$251m

Whilst the rank order of the options have changed, Option 3 'the Gippsland Water Factory Stage 1 (Standalone) project remains the most efficient solution.

From January through June 2006, the Gippsland Water Factory Alliance has systematically developed the final design solution. The development was based on the underlying project drivers, objectives and key result areas described within the Business Case and articulated within the Request For Proposal.

The design solution development began with identification and review of various technical solutions and scenarios that could potentially address the requirements of the project and meet the overall project objectives. This initial work was called the 'Optioneering' phase, and consisted of a formal process to assess:

- various technical options and rank their ability to meet the projects essential objectives and requirements; and
- to review various permutations and combinations of these process options.

The Optioneering work was based on a decision making process that used multi-criteria analysis techniques, which provided a ranking of the options based on project objectives, specified performance outcomes based on a pre-agreed scoring and relative weighting system. Simpler and more traditional cost based evaluations do not readily account for this value driven consideration.

The selected option was then developed into a concept level design from which the initial planning estimates were prepared. Subsequently, a concentrated Value Engineering exercise further refined the solution to reduce capital requirements and ensure best value, whilst maintaining a focus on the project objectives and key result areas.

The result of the Optioneering, Design Development and Value Engineering processes is the final design solution and estimate.

The method for developing the cost estimate was a 'first principle process' utilising industry standard estimating software. This software provides the ability to take advantage of historical costs incurred on other water treatment projects. To compliment the software database, additional key inputs were utilised in the estimate build up, including:

- Local estimating expertise was utilised to develop key costs;
- Local knowledge for labour, equipment and construction productivity;
- Market based testing for key construction, material, equipment and supply items; and
- Formal tender process for critical process equipment.

Analysis of the overall capital estimate indicates that 79% of the estimated cost of the treatment plant and 82% of the estimated costs for the transfer system were sourced by some form of quotation from the market place.

In the current rapidly escalating construction market, it is important to apply a rigorous process to time based escalation. Accordingly each of the key areas of costs was escalated utilising a specific escalation factor and methodology for that area, rather than apply an average escalation factor to the entire estimate.

The capital estimate includes a risk based contingency that was developed utilising a formal and systematic methodology. The contingency was derived by assessing both the foreseen and unpredictable risks and opportunities to arrive at a probabilistic model for the final project costs.

A financial risk model, which included approximately 220 planned risks and 30 unplanned risks were defined and modelled using a Monte Carlo simulation technique. This simulation provides a range of project estimates based the probability of various combinations of risks and opportunities occurring, normally expressed as P(x). Where the probability of the project being delivered at that estimate or less is derived with (x)% certainty.

The capital estimate of $173.9m includes risk contingency equivalent to a P50 estimate.

Gippsland Water have engaged a number of independent reviews to provide an additional level of confidence in the final design solution and estimate. These reviews include:

- Third party design verification;
- Intra company technical, cost and risk reviews;
- Independent technical review;
- Independent estimate verification; and
- Independent financial and commercial verification.

All independent parties provided a full report and assurance to Gippsland Water.

Rosedale Transfer System

In August 2006 the Gippsland Water Board approved a Target Outturn Cost (TOC) for the Gippsland Water Factory project which included the local treatment of Rosedale wastewater at an existing site along the ROS alignment. The land parcel is already zoned for this purpose and there is a collection of existing infrastructure and facilities at the site.

During detail design, the size of the land parcel began to cause too many constraints to the layout and configuration of the new infrastructure. This was further compromised due to the requirement for specific noise and odour mitigation measures demanded by the local community who petitioned the EPA during the consultation process.

The environmental footprint for the new works began to expand and the contribution of greenhouse gas became greater than the previously pumped solution. Also, in consideration of the potential Gippsland Water Factory Stage 2 works, additional land would be needed for the treatment and disposal of wastewater as the ROS would no longer be available for this purpose. The additional cost was projected to be in excess of $20m.

A further uncertainty and risk was due to the future viability of a major customer. Their waste flows are highly variable which potentially adds operational difficulties to the local treatment plant unless large buffering tanks are provided.

The decision was taken to pump the Rosedale wastewater back to the Gippsland Water Factory at Morwell, based on a combination of the following:

- Existing land parcel became too constrained;
- Noise and odour infrastructure added to the footprint and to cost;
- Greenhouse Gas addition was unacceptable;
- Future costs needed to be avoided; and
- The future of a major customer would generate operational complexity.

Gippsland Water's capital expenditure for 2007/08 has been adjusted to include $4.9m for this project.

5.5.2 ROLLING FORWARD THE RAB

The forecast RAB has been calculated on a consistent basis as the 2005 Urban Water Price Review where the forecast closing RAB at 30 June 2008 (as shown in Section 5.4.1) is adjusted annually in the following manner:

Opening RAB
Plus forecast gross capital expenditure
Less forecast customer and government contributions
Less forecast proceeds from disposal of assets
Less regulatory depreciation
Equals closing RAB

Gippsland Water's forecast RAB for each year of the regulatory period is shown in Table 34.

Table 34: Forecast RAB

$m, 1/1/07	2008-09	2009-10	2010-11	2011-12	2012-13
Opening asset base	334.86	381.42	399.13	418.37	460.63
plus Gross capex	56.93	32.26	42.45	56.89	62.74
less Government contributions	-	0.50	8.00	0.50	-
less Customer contributions	1.37	4.07	4.29	1.91	16.92
less Proceeds from disposals	0.53	0.48	0.68	0.97	0.53
less Regulatory depreciation	8.48	9.51	10.24	11.24	12.37
Closing asset base	**381.42**	**399.13**	**418.37**	**460.63**	**493.55**

Forecast gross capital expenditure

Gippsland Water's forecast gross capital expenditure for each year of the regulatory period is detailed in Section 5.3.

Forecast customer and government contributions

Gippsland Water's forecast customer and government contributions comprises of three categories of contributions:

- New customer contributions for existing towns;
- New customer contributions for new small town schemes;
- Government contributions towards new small town schemes; and
- "Inside property boundary" costs from new customers.

Table 35 details forecast customer and government contributions.

Table 35: Forecast customer and government contributions

$m, 1/1/07	2008-09	2009-10	2010-11	2011-12	2012-13
New customer contributions					
- existing towns	1.11	1.07	1.05	1.15	1.05
- small town schemes	0.26	-	-	0.06	-
Government contributions					
- small town schemes	-	0.50	8.00	0.50	-
In property costs					
- small town schemes	-	-	1.23	-	15.87
Rechargeable Works	-	3.00	2.00	0.70	-

New customer contributions for existing towns

New customer contributions for existing towns have been calculated based upon the forecast growth in properties across the existing Gippsland Water region as detailed in Section 6 multiplied by the proposed prices for new customer contributions as detailed in Section 7. Table 36 shows the calculation of new customer contributions from existing towns.

Table 36: New Customer Contributions for existing towns

	2008-09	2009-10	2010-11	2011-12	2012-13
No. new properties					
- Water	576	554	549	545	548
- Waste	481	462	458	555	457
Price per service per property	1,047.60	1,047.60	1,047.60	1,047.60	1,047.60
Total $m, 1/1/07	1.11	1.07	1.05	1.15	1.05

New customer contributions for new small town schemes

Gippsland Water's capital program includes the provision of new wastewater services to the townships of Glenmaggie, Coongulla and Loch Sport. All of these towns are included in the State Government's New Small Town Scheme as priority one towns and accordingly these customers will be levied an upfront contribution capped at $800 per property, they will also be provided with the option of paying $80 per annum over 20 years. For pricing purposes Gippsland Water has assumed that these new customers will pay the full $800 per property at the completion of capital works. Table 37 shows the calculation of new customer contributions from new towns.

Table 37: New Customer Contributions for new towns

	2008-09	2009-10	2010-11	2011-12	2012-13
No. new properties					
Seaspray	330	-	-	-	-
Glenmaggie	-	-	-	77	-
Coongulla	-	-	-	-	-
Loch Sport	-	-	-	-	-
Price per service per property	800.00	800.00	800.00	800.00	800.00
Total $m, 1/1/07	0.26	-	-	0.06	-

Government contributions towards new small town schemes

Gippsland Water's capital program includes the provision of new wastewater services to the townships of Glenmaggie, Coongulla and Loch Sport. All of these towns are included in the State Government's New Small Town Scheme as priority one towns and accordingly Gippsland Water anticipates that the government will make a capital contribution towards the capital cost of each of these new schemes. No official announcement has been made in relation to the level of contribution, accordingly Gippsland Water has included its own estimate. Table 38 shows the estimated government contributions for new towns.

Table 38: Government Contributions for new towns

$m, 1/1/07	2008-09	2009-10	2010-11	2011-12	2012-13
Glenmaggie	-	0.50	-	-	-
Coongulla	-	-	-	0.50	-
Loch Sport	-	-	8.00	-	-
Total	-	0.50	8.00	0.50	-

In property costs

As outlined, Gippsland Water's capital program includes the provision of new wastewater services to the townships of Glenmaggie, Coongulla and Loch Sport, which are all included in the State Government's New Small Town Scheme as priority one towns. At present, indications are that these systems will require services to be provided inside the customer's property boundary. Gippsland Water has included an estimation of the likely contribution from customers for inside property costs as outlined in Table 35.

Forecast proceeds from disposal of assets

Forecast proceeds from disposal of assets represents Gippsland Water's estimated sale proceeds resulting from sale of motor vehicles as part of our ongoing fleet replacement program.

Regulatory depreciation

Regulatory depreciation comprises depreciation on existing assets, that is, the closing RAB at 30 June 2008 and depreciation on new assets, that is, forecast capital expenditure.

Consistent with the approach adopted by Gippsland Water in the 2005 Urban Water Price Review regulatory depreciation has been calculated using a straight line approach.

Gippsland Water has reviewed the remaining lives of existing assets against its accounting records and through the application of a weighted average rather than a simple average a lower depreciation charge for existing assets has resulted.

Depreciation of new assets have been calculated based upon an average life of 60 years for infrastructure related assets and 10 years for non infrastructure assets which is consistent with the approach adopted by Gippsland Water in the 2005 Urban Water Price Review.

5.5.3 WEIGHTED AVERAGE COST OF CAPITAL

Under the provisions of the WIRO Gippsland Water may recover the cost of financing existing and new investments through earning a return on the value of the RAB. The weighted average cost of capital (WACC) is the return that Gippsland Water seeks to earn on their RAB.

Gippsland Water agrees with the ESC's preferred approach of using the capital asset pricing model to calculate the WACC.

Based upon Gippsland Water's experience during the 2005 Urban Water Price Review Gippsland Water anticipates the ESC's final determination will be a single WACC across the industry, accordingly this Water Plan has utilised the ESC's current estimate of the WACC of 5.1 per cent as detailed in ESC's 2008 Water Price Review Guidance Paper, March 2007. This estimate is for the 20 day period 7 February to 6 March. Gippsland Water understands that the current estimate may vary significantly from that adopted for the ESC's draft and final decisions. Table 39 shows the ESC's current estimate of the WACC.

Table 39: Real post tax WACC

WACC assumptions	
Parameters	
Risk Free Rate (Real)	2.61%
Debt Premium	1.11%
Equity Premium	6.00%
Equity Beta	0.75
Gearing (Debt/Assets)	60.00%
Forecast Inflation	3.15%
Franking credit value	0.5
'Vanilla' After Tax WACC (Real)	5.10%

5.6 TAXATION

Gippsland Water became subject to the National Tax Equivalent Regime (NTER) from 1 July 2002. Gippsland Water adopts the liability method of Tax Effect Accounting in accordance with the requirements of AASB 112.

Tax effect accounting is applied using the liability method whereby income tax is regarded as an expense and calculated on accounting profit after allowing for permanent differences. To the extent timing differences occur between the time items are recognised in the financial report and when items are taken into account in determining taxable income, the net related taxation benefit and liability, calculated at tax rates applicable at the point of reversal, is disclosed as a future income tax benefit or a provision for deferred income tax. The net future income tax benefit relating to tax losses and timing differences is not carried forward as an asset as the benefit is not virtually certain of being realised.

It is unlikely that the Gippsland Water will generate sufficient operating profits across the regulatory period, however, in the event that it does, Gippsland Water estimated that the potential future income tax benefit at 30 June 2006 in respect of tax losses not brought to account is $33.6m and is forecast to be $51.9m at 30 June 2008.

6.0 DEMAND FORECASTS

6.1 WATER SUPPLY DEMAND STRATEGY

The demand forecasts contained within this Plan are consistent with forecasts and assumptions outlined within Gippsland Water's Water Supply Demand Strategy. This Water Supply Demand Strategy presents a series of actions to sustainably manage and meet the water needs of the region serviced by Gippsland Water over the next 50 years.

Inflows over the past 10 years have been well below the long term average, heightening the community's attention on water resources like never before. Questions such as where our water comes from, how much is in storage and how it is used have become part of the community's daily conversation.

The Victorian Government has led the community discussion with the release of a White Paper Our Water Our Future, which identified over 110 initiatives setting the direction of water management in the State.

A key action of Our Water Our Future was a requirement that all water utilities in the State develop Water Supply Demand Strategies every five years. This is the first Water Supply Demand Strategy for the Gippsland Water region, developed with input from a range of stakeholders and Gippsland Water customers.

The Water Supply Demand Strategy for the Gippsland Water region achieves five key aims:

- Builds on actions identified in the Victorian Government's Central Region Sustainable Water Strategy;
- Determines the expected available water supply to meet water demand, based on a medium climate change scenario and also a step change reduction in water supplies;
- Forecasts the expected long-term water demand for the Gippsland Water region;
- Identifies the range of potential water supply-demand options and assesses these against economic, environmental and social criteria; and
- Recommends a series of actions to sustainably manage and meet the region's water needs over the next 50 years.

Gippsland Water has committed to formally review this Strategy with the community every five years. Gippsland Water will also report on progress against our actions each year in our Annual Report.

6.1.1 STRATEGY CONTEXT

National and State Frameworks

The National and Victorian Government's have recently put in place the National Water Initiative and the Our Water Our Future program. The Victorian Government, through its Our Water Our Future program, has set some key directions which shape the Water Supply Demand Strategy.

A key action of Our Water Our Future was the preparation of regional sustainable water strategies, planning frameworks for deciding on large-scale, long-term changes in water use. The Victorian Government has recently released the Central Region Sustainable Water Strategy, which sets actions to secure water supplies for cities and towns, agriculture and rivers in the Geelong, Ballarat, greater Melbourne, Westernport and West Gippsland areas. The Victorian Government has committed to preparing four other regional strategies, including the Gippsland Region Sustainable Water strategy commencing in 2007.

Local Frameworks

This Water Supply Demand Strategy is the principal water resources document for Gippsland Water. It sets directions for water management and planning processes in the region, such as water conservation and water recycling action plans. The primary mechanism for implementation will be this Water Plan.

The cost of many of the actions identified will be incorporated into the price of water to ensure a reliable funding source. Some actions will be the responsibility of Gippsland Water, some the responsibility of the Victorian Government and others will be the responsibility of the community with incentives and education programs funded by Gippsland Water and the Victorian Government.

6.1.2 THE STRATEGY DEVELOPMENT PROCESS

This Water Supply Demand Strategy marks the first attempt by Gippsland Water to prepare a long-term water resources strategy. As such, no previous strategies were available for review in the preparation of this Water Supply Demand Strategy.

Input from Community and Stakeholders

Gippsland Water recognises that in order to effectively plan long term water resource planning and management it is essential for communities to participate and contribute to the process. To ensure that Gippsland Water communicated effectively with communities and stakeholders, a comprehensive communications plan was developed and a consultation program undertaken during 2006.

The consultation program was developed to ensure that the communication needs of the broad range of stakeholders and community identified were met. This involved providing a range of workshops for the different groups of stakeholders and communities.

Community and stakeholder feedback from this process was used in the development of this Water Supply Demand Strategy.

Sustainability Assessment Process

To ensure that options and corresponding actions deliver the best economic, environmental and social outcomes for the region, a sustainability assessment of options was carried out. The framework for the sustainability assessment was consistent with that used by the Victorian Government for assessing other water projects, including the Central Region Sustainable Water Strategy.

The sustainability assessment comprised the following criteria and measures (not in priority order):

- Net Present Cost ($/ML);
- Effect on regional GDP and development;
- Greenhouse gas emissions (kg CO2/ML);
- Impact on environmental flow objectives (River Health);
- Impact on surface water, groundwater and marine water quality;
- Effect on terrestrial ecosystems;
- Cultural, heritage and recreational values;
- Public health risk;
- Social acceptability; and
- Confidence of success regarding water volumes.

6.1.3 PLANNING FOR THE SUSTAINABLE MANAGEMENT

Planning for the sustainable management of our water means taking into consideration the potential long-term impacts of several major factors, including:

- Changing catchments;
- Increasing population;
- Changing house stock and occupancy rates;
- Climate change;
- River health protection; and
- Changing community attitudes to water.

Changing Catchments

Significant changes in land use are likely to occur in parts of the Gippsland Water region over the medium to long term. This will have the effect of decreasing catchment yield in the short to medium term, with yields gradually recovering as the forests mature, or following harvesting.

With the recent bush fires in the Moondarra Catchment, the yield will initially increase, remaining at elevated levels until the tree canopy is re-established. Where the trees were killed and must regenerate from seed, yield will drop below pre-fire levels over the medium to long term, recovering to pre-fire levels as the forest matures.

The 2006/07 Gippsland bushfires have also highlighted the significant impacts of bushfire on water quality, most notably in the Macalister River. Water quality impacts can effectively render a water supply unusable, with effects often lasting months or years.

Population Growth

The population serviced by Gippsland Water is forecast to increase from its current level of 131,000 to 139,000 by 2030 and to 147,000 by 2055. Population growth can be difficult to forecast, and variations to assumptions used may affect population growth in the Gippsland Water region.

This population growth in itself is not expected to significantly impact upon demand, except in the western part of the region, in the rapidly-growing urban centres of Warragul and Drouin.

Changing Housing Stock and Occupancy Rates

While population growth in the Gippsland Water region is not expected to be high over the medium to long term, the greatest impact to water demand is likely to be the increasing housing stock and reduced occupancy rates.

It is anticipated that there will be around another 19,000 new homes serviced by Gippsland Water over the next 50 years. Of these, approximately 90% will be detached homes and 10% will be multi-residential (units and apartments). Detached homes on average use 35,000 litres per year more than a unit or apartment due to garden watering and other outside uses.

In addition to this, the Victorian population are increasingly moving towards homes with fewer people. While the current average indoor residential water use in the Gippsland Water region is approximately 186 litres per person per day, homes with lower occupancy rates use more per person. For example, based on estimated consumption figures for Melbourne, a single person home typically uses around 250 litres per person per day, a two person home uses around 200 litres per person per day, and a three person home uses around 170 litres per person per day. This is due largely to activities such as clothes washing, dishwashing and cooking which tend to be more efficient in homes with more people.

Climate Change

Current studies indicate that climate change is likely to significantly reduce rainfall, river flows and the amount of water supplied by our reservoirs. Extreme events, such as flooding and drought, are likely to increase in frequency and severity.

The CSIRO has recently completed a comprehensive investigation of the potential impacts of gradual long term climate change on streamflows for Victoria. To deal with uncertain outcomes, CSIRO provided three gradual climate change scenarios: high, medium and low. This Strategy and the Central Region Sustainable Water Strategy initially focussed on addressing the impacts of a medium climate change scenario. Under a gradual long term scenario, climate change could reduce streamflow by as little as 7% or by as much as 41% by 2055. For the purpose of estimating water availability for this Strategy and the Central Region Sustainable Water Strategy, it is assumed that the impact of climate change is borne in the same proportion by consumptive uses and the environment within each river basin. As such, the estimated reductions in system yield are assumed to be proportional to the reduction in streamflows.

Over the past 10 years, inflows to Gippsland Water's supply systems have been 21 per cent less than the long term average. The reduced inflows mean that reliability of water supplies is reduced. A scenario based on a continuation of low inflows has been investigated as part of this Strategy, using an approach adopted for the Central Region Sustainable Water Strategy. This scenario represents a step change in system yield, with no future decline assumed.

Given the high security of supply required by Gippsland Water's major industrial customers, Gippsland Water has adopted a continuation of low inflows for planning purposes. Whether

recent low inflows are attributable to climatic variability or a climate step change, Gippsland Water needs to plan short, medium and long term operations assuming continued low inflows.

A CSIRO and Melbourne Water study found that another implication of climate change is increased demand, with for example, increased volumes of water used on the garden. The study found that climate change could increase water demand in Melbourne by 3% over 50 years, but this is potentially offset by increased water use efficiency. For this Strategy, a 1% demand increase has been assumed for every 6% reduction in streamflow.

Ongoing monitoring and periodic review of the climate change projections, particularly rainfall projections, will be required to ensure Gippsland Water remains well placed to adapt to climate change.

Protecting River Health

Gippsland Water's supply is dependent on the health of the Latrobe, Thomson/Macalister and Tarago Rivers. Protecting the ecosystems of these rivers is complex, but crucial to ensuring there is sufficient clean water to drink and a healthy environment that supports a range of ecosystems and recreational and cultural activities. It is important that these rivers receive enough water at the right time to maintain their health. Management of these rivers is detailed in River Health Strategies prepared by the West Gippsland Catchment Management Authority and Melbourne Water, with Environmental Flows studies completed or currently underway for each of the rivers.
The Victorian Government's Our Water Our Future program recognised the impacts water extractions have had on river health and put in place actions to increase flows and restore river health.

The Victorian Government has committed to returning an environmental entitlement of 25,000 ML to the Thomson and Macalister Rivers, with 10,000 ML provided to the Thomson River in 2005 as a result of water savings in Melbourne and 15,000 ML provided in the short to medium term through water efficiency savings in the Macalister Irrigation District. A temporary entitlement of 10,000 ML per year has been provided to the Latrobe River from the unallocated share of Blue Rock Reservoir, while investigations of environmental water needs are undertaken.

Returning water to the rivers will reduce water available for consumption and will require increased water conservation by rural and urban users, or the use of alternative water supplies. River health will also be impacted by climate change and is important that the right balance is achieved between protecting our rivers and consumptive water use.

Changing Community Attitudes to Water

One of the common themes from community consultation undertaken by Victorian Water Businesses is 'let's make sure we are using what we have as best we can'. Community awareness and acceptance regarding water conservation is increasing due to the changing environment and education by Water Businesses and the Victorian Government. The challenge for the future is to maintain the community's commitment to saving water and increase the understanding of alternative water supplies such as recycled water, groundwater, rainwater and stormwater.

This will be particularly challenging during non-drought periods where the focus on the scarcity of water is diminished. However, it is critical that we continue to save water now and in the future as population growth and climate change cause water to become increasingly scarce.

6.2 BALANCING SUPPLY AND DEMAND

Balancing supply (water resources) and demand (water consumption) is the key to providing a sustainable water supply. The prediction of future water use by the community and industry is critical when reviewing the available supply and water conservation options.

The baseline supply-demand forecast is the starting point for the development of this Water Supply Demand Strategy. It is based on what our water supply and demand would look like if we did not put in place any further water conservation or supply augmentation actions (except those already approved by the Victorian Government such as Stage 1 of the Gippsland Water Factory). Baseline supply-demand forecasts have been prepared for each of Gippsland Water's ten surface water and two groundwater supply systems.

Gippsland Water will put in place further actions to conserve more water and augment supply and while the baseline forecast is the starting point, the end point will be a reliable and sustainable water supply across all water supply systems.

6.2.1 DEMAND FORECAST AND ASSUMPTIONS

Future demand will drive decisions around the timing of investments and the delivery of the available supply and demand options. If growth accelerates at a faster rate than forecast then the timing for major augmentations will need to be bought forward. Accordingly, the demand on the systems will be reviewed every year to gauge when augmentation works will need to occur.

Gippsland Water works closely with local government, including Latrobe City , Baw Baw, Wellington and South Gippsland Shires with regard to future planning and directions contained in their respective Municipal Strategy Statements. Planning for growth remains a challenge for the local government bodies within the Gippsland Water region. Adopting realistic growth projections is essential to make efficient investment decisions, in order to minimise cost and meet the future servicing requirements.

Gippsland Water supplies a number of major industries of State and National significance, including power generation, paper manufacture and large dairies. These industries consume more than 70% of the water supplied by Gippsland Water and require a high security of supply (some customers require 100% reliability of supply). Given Central Gippsland's resource-driven economy and large reserves of coal and timber, future growth of these large water consumers must be catered for, together with provision for new major industry.

Gippsland Water liaises closely with its existing major customers including Australian Paper, the power generators and large dairy industries. Gippsland Water's major industrial customers provided 50 year demand projections as a key input to the supply-demand forecast for the Moondarra system. These projections include savings from water conservation measures currently being implemented by two of Gippsland Water's major customers.

It is anticipated that new industries with an estimated demand of 8,000 ML may be established within the region over the next 10 years. The growth assumptions used in this Strategy do not account for the introduction of any new or additional major industry. Instead, it is acknowledged that the Victorian Government retains control over a significant water entitlement that is held in reserve to support growth of this nature in the region. Victorian Government support for significant new industry would allow the release of this water to support new development.

For the development of baseline demand forecasts, Gippsland Water has utilised the Victorian Government's "Victoria in Future" population and dwelling projections. The baseline demand forecasts are based on several assumptions detailed in Appendix C and summarised below:

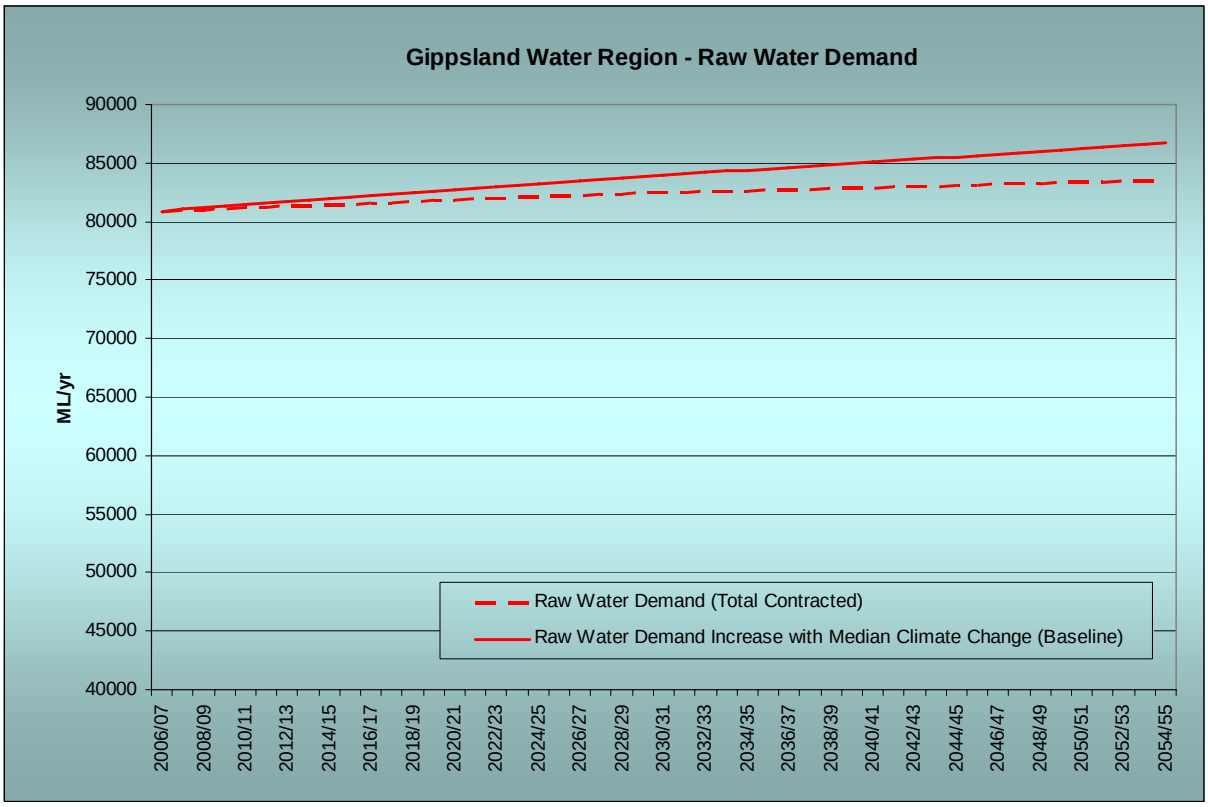
- Victorian Government forecasts for population;
- Victorian Government forecasts for housing stock change;
- Gippsland Water projections for existing industrial and commercial growth; and
- Increased demand due to climate change.

The baseline demand forecast is shown in Figure 2, with the forecast demand for the next 50 years based on current consumption and total contracted industrial demand.

Households supplied by Gippsland Water currently use around 11,000 ML of water per year, relatively unchanged since the 1990s. Total demand has decreased from an average 68,000 ML per year in the 1990s to 66,000 ML currently, due to savings by major industry and reductions in non-revenue water use. This demand increases to 81,000 ML per year when total contracted industrial volumes are taken into account.

With population and housing growth and continued adoption of existing water conservation measures, the Gippsland Water region's demand for water (without new actions to reduce demand) will increase to 82,000 in 2030 and 84,000 ML in 2055. With the effects of climate change, this demand could be as high as 84,000 in 2030 and 87,000 ML in 2055 (the baseline demand forecasts used in this Strategy include climate change). Most of this growth is likely to occur as a result of major industry expansion, including both existing and new customers.

Figure 2: Baseline demand forecast for West Gippsland without further action to conserve water



6.2.2 SUPPLY FORECAST AND ASSUMPTIONS

System yield is the average annual level of total demand that can be supplied by a water supply system, subject to an adopted set of operational rules and a typical demand pattern, without violating level of service criteria. Target reliability for Gippsland Water's water supply systems is 95% annual reliability (i.e. restrictions in place for about 1 year in 20). A number of Gippsland Water's major industrial customers require 100% reliability of supply (no restrictions).

The yield of a system is influenced by:

- rainfall patterns and runoff into streams as a result of rainfall;
- the size and natural features of the catchment;
- the intensity and type of development and land use within the catchment, including the number and size of farm dams;
- evaporation from streams and storages;
- the capacity and operational rules of supply infrastructure;
- required volume and timing of releases from the storages in order to maintain downstream ecosystems and riparian rights; and
- restriction triggers and service levels that influence the frequency and level of severity of restrictions.

Gippsland Water's right to extract water from the various rivers and bores is defined by Bulk Entitlements and Licenses. These are legal documents which define how much water Gippsland Water may take and specify various obligations and limits relating to the resource. For

example, some Entitlements specify the passing flow required to be made, establish a cap on the volume of water that may be extracted in a defined time period and require the managing authority to establish and maintain appropriate monitoring and reporting programs.

The Bulk Entitlements were established by the Victorian Government and generally reflect a conversion of historic use. Regardless of the capacity and amount of water available as surface water and groundwater, the legal extraction is limited to the volumes specified in the Bulk Entitlements and Licences.

Preliminary estimates of Gippsland Water's future water supply and use were based on averages of the past 50-100 years of inflows to reservoirs. A gradual reduction in supply (over 50 years) is expected as a result of medium climate change. Under this scenario, the expected decline in inflows to Gippsland Water's supply systems is 4 per cent by 2030 and approximately 19 per cent by 2055.

Over the past 10 years, inflows to Gippsland Water's supply systems have been 21 per cent less than the long term average. The reduced inflows mean that reliability of water supplies is reduced. For each of the supply systems, a scenario based on a continuation of low inflows was run, using an approach adopted for the Victorian Government's Central Region Sustainable Water Strategy. This scenario represents a step change in system yield, with no future decline assumed.

The baseline supply forecasts are based on a number of assumptions, detailed in Appendix C and summarised below:

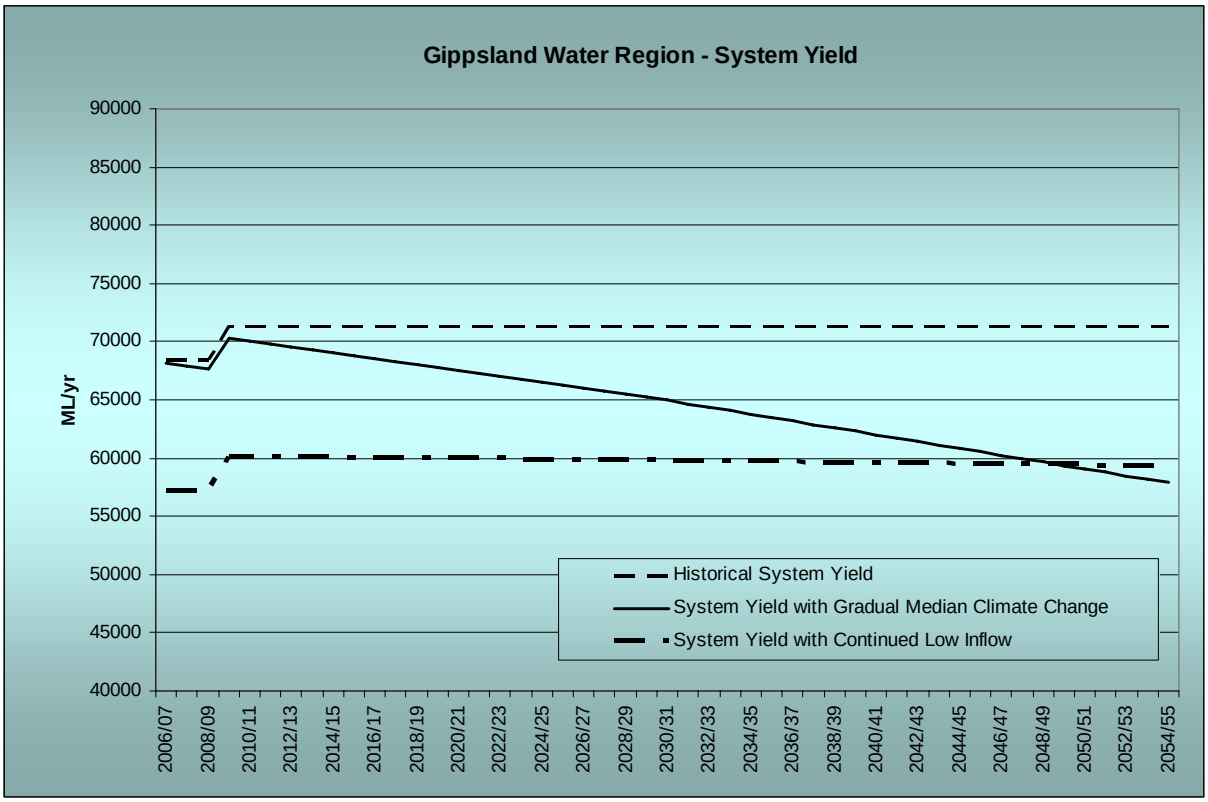
- System yields based on REALM water allocation modelling, or Bulk Entitlement or licence volumes where a model was not available;
- System yields adjusted for two scenarios: a gradual medium climate change scenario, and step change scenario based on continued low inflows from the past ten years; and
- Gippsland Water's target level of service to customers, which aims to provide a 95% annual reliability of supply, and restrictions no more severe than Stage 3.

The baseline supply forecast is shown in Figure 3. It indicates that under a medium climate change scenario and without further actions to augment supply, Gippsland Water's supply systems can currently supply a total of 68,000 ML a year, reducing to 58,000 ML a year by 2055.

Assuming a continued low inflow scenario, Gippsland Water's supply systems can currently supply a total of 57,000 ML a year, with no further decline in yield due to climate change assumed. The 3,000 ML increase in yield evident in 2009 is a result of the commissioning of Stage 1 of the Gippsland Water Factory.

Given the high security of supply required by Gippsland Water's major industrial customers, Gippsland Water has adopted a continuation of low inflows for planning purposes. Whether recent low inflows are attributable to climatic variability or a climate step change, Gippsland Water needs to plan short, medium and long term operations assuming continued low inflows.

Figure 3: Baseline supply forecast for West Gippsland (without further actions to augment supply)

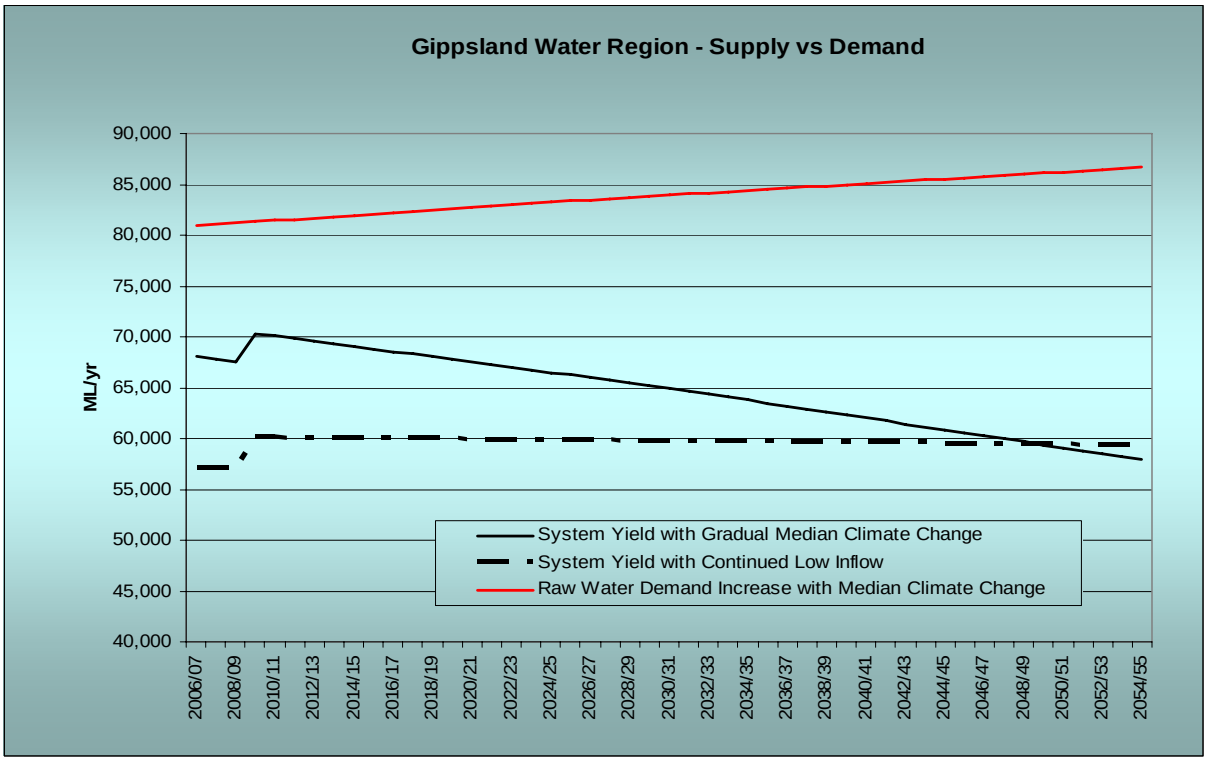


6.2.3 THE SUPPLY-DEMAND BALANCE

The baseline supply-demand forecast for the Gippsland Water region is shown in Figure 4. Under low inflow conditions, the baseline supply-demand forecast indicates that an additional 23,700 ML of water will be required immediately, decreasing to 22,100 ML in 2015 as a result of a yield increase associated with the commissioning of Stage 1 of the Gippsland Water Factory, and water conservation measures currently being implemented by two of Gippsland Water's major customers.

If we consider excluding systems with a surplus of water where interconnection with other systems is not considered to be feasible, then an additional 1,300ML of water (totalling 25,000 ML) would be required immediately. In comparison, under long-term average inflows, the region has a current shortfall of 12,800 ML.

Figure 4: Baseline supply-demand forecast based on a medium climate change scenario



6.2.4 RELIABILITY OF WATER SUPPLIES

Based on long-term average conditions, Gippsland Water could currently meet its 95% annual target reliability for all its systems, except the major Moondarra system. However, if low river inflows continue, then Gippsland Water would be unable to meet its annual target reliability of 95% for seven of its water supply systems, including the major Moondarra, Moe and Tarago systems. A summary of systems meeting Gippsland Water's reliability target under long-term average and continued low inflow conditions is presented in Table 40.

Table 40: Current ability to meet 95% annual target reliability

95% annual target reliability	Long-term average conditions	Continuing low inflow conditions
Boolarra	YES	**NO**
Briagolong	YES	YES
Erica Rawson	YES	YES
Mirboo North	YES	YES
Moe	YES	**NO**
Moondarra^	**NO**	**NO**
Sale	YES	YES
Seaspray	YES	**NO**
Tarago	YES	**NO**
Thomson/Macalister	YES	**NO**
Thorpdale	YES	**NO**
Willow Grove	YES	YES

6.2.5 SYSTEM SHORTFALLS

In order to maintain an annual reliability of 95%, with either average river inflows or continued low inflows, it will be necessary to secure additional water. Table 41 shows the modelled volumes of water that are needed (i.e. the expected shortfalls) for long-term average conditions, while Table 42 shows the required volumes for continuing low inflow conditions.

Table 41: Expected shortfalls for urban use in Gippsland Water region under medium climate change

Long term average (gradual medium climate change)	Now	2015	2030	2055
Boolarra	4 ML	4 ML deficit	15 ML deficit	27 ML deficit
Briagolong	53 ML	44 ML	31 ML	10 ML
Erica Rawson	216 ML	198 ML	170 ML	121 ML
Mirboo North	14 ML	16 ML deficit	65 ML deficit	145 ML deficit
Moe	513 ML	386 ML	201 ML	160 ML deficit
Moondarra^	15,540 ML deficit	14,849 ML deficit	18,606 ML deficit	25,138 ML deficit
Sale	1,228 ML	1,043 ML	759 ML	253 ML
Seaspray	5 ML	1 ML	5 ML deficit	13 ML deficit
Tarago	246 ML	432 ML deficit	1,598 ML deficit	3,474 ML deficit
Thomson/Macalister	387 ML	260 ML	71 ML	243 ML deficit
Thorpdale	3 ML	1 ML	2 ML deficit	8 ML deficit
Willow Grove	91 ML	84 ML	72 ML	50 ML
Total region	**12,779 ML deficit**	**13,283 ML deficit**	**18,988 ML deficit**	**28,774 ML deficit**

Table 42: Expected shortfalls for urban use in Gippsland Water region under continued low inflows

Continuing low inflow conditions (step change with last 10 years inflows)	Now	2015	2030	2055
Boolarra	27 ML deficit	32 ML deficit	38 ML deficit	41 ML deficit
Briagolong*	53 ML	44 ML	31 ML	10 ML
Erica Rawson	98 ML	91 ML	81 ML	67 ML
Mirboo North	13 ML	9 ML deficit	44 ML deficit	99 ML deficit
Moe	169 ML deficit	134 ML deficit	49 ML deficit	90 ML
Moondarra^	22,853 ML deficit	20,480 ML deficit	21,435 ML deficit	22,777 ML deficit
Sale*	1,228 ML	1,043 ML	759 ML	253 ML
Seaspray	19 ML deficit	21 ML deficit	22 ML deficit	23 ML deficit
Tarago	1,564 ML deficit	2,046 ML deficit	2,885 ML deficit	4,215 ML deficit
Thomson/Macalister	537 ML deficit	572 ML deficit	606 ML deficit	640 ML deficit
Thorpdale	7 ML deficit	8 ML deficit	10 ML deficit	12 ML deficit
Willow Grove	39 ML	37 ML	33 ML	26 ML
Total region	**23,745 ML deficit**	**22,086 ML deficit**	**24,185 ML deficit**	**27,362 ML deficit**

6.2.6 ACTIONS IN RESPONSE TO SYSTEM SHORTFALLS

Under low inflow conditions, modelling by Gippsland Water indicates that an additional 23,700 ML of water will be required immediately, decreasing to 22,100 ML in 2015 as a result of a yield increase associated with the commissioning of Stage 1 of the Gippsland Water Factory, and water conservation measures currently being implemented by two of Gippsland Water's major customers. If we consider excluding systems with a surplus of water where interconnection with other systems is not considered to be feasible, then an additional 1,300ML of water (totalling 25,000 ML) would be required immediately. In comparison, under long-term average inflows, the region has a current shortfall of 12,800 ML.

In order to maintain an annual reliability of 95%, with either average river inflows or continued low inflows, it will be necessary to secure additional water. Table 41 shows the modelled volumes of water that are needed (i.e. the expected shortfalls) for long-term average conditions, while Table 42 shows the required volumes for continuing low inflow conditions.

Actions in response to system shortfalls – Moondarra system

To take account of differences between forecast industrial demand and total contracted industrial demand in the Moondarra system, three scenarios were considered as part of this Strategy:

- Baseline demand forecast (based on observed demands and forecast demands by major industry);
- Total contracted demand (including total contracted industrial demand); and
- Total contracted demand including potential new major industrial customers.

Baseline demand is forecast to exceed supply in the Moondarra system by 2029 under long-term average conditions. There is a current shortfall of 8,242 ML under continuing low inflow conditions, reducing to a shortfall of 2,449 ML in 2015 due to commissioning of Stage 1 of the Gippsland Water Factory and implementation of major industry water conservation measures.

Recent developments, with particular regard to water supply to the power generators, represent a potential and serious change to the nature of major customer demands. As a result of extremely low streamflows in 2006/07, power generators are now indicating they will seek to rely on their long term contracts with Gippsland Water for supply of high quality water (used in boiler feed processes) to support cooling water needs. A review of all major client contracts has confirmed a gap of approximately 14,600 ML between contracted volumes and historical demand on the Moondarra system. To account for Gippsland Water's potential future obligations to supply full contracted major industry demands, contracted demands in excess of the customer-provided demand forecasts were included as a separate Moondarra total contracted demand forecast scenario. Under this scenario, there is a current shortfall of 15,540 ML under long-term average conditions, and a current shortfall of 22,853 ML under continuing low inflow conditions.
It is anticipated that new industries with an estimated demand of 8,000 ML will be established within the region over the next 10 years. Some of these industries are likely to be supplied from the Moondarra system. An additional demand forecast scenario was prepared, combining contracted major industry demands and potential new major industry demands. Under this scenario, the contracted major industry demand scenario shortfalls increase by a further 8,000 ML, to approximately 30,000 ML under continued low inflow conditions.

After considering these three scenarios, Gippsland Water has determined to base actions for the Moondarra system on meeting shortfalls associated with the total contracted demand forecast.

Table 43 provides a range of immediate contingency and ongoing actions to provide around 25,900 ML of water for the Moondarra system by 2015, which is enough to meet the low river inflow shortfalls and provide an adequate buffer supply of water assuming total contracted industrial demand. These actions are supported by a separate strategy prepared by Gippsland Water: the Water Security Investment Strategy for the Latrobe System[3]. Interconnections have not been included in the total volume provided.

Table 43: **Actions to be taken over next 7 years to meet projected shortfalls**

System	Year Demand Exceeds Supply (med climate change scenario)	Year Demand Exceeds Supply (low inflows scenario)	Actions to be Taken Over Next 7 Years
Moondarra (Scen. 1)	2029	Now	Additional 17 GL Blue Rock supply Purchase temporary water Gippsland Water Factory Stage 2 Optimise Blue Rock pump operation
Moondarra (Scen. 2)	Now	Now	
Moondarra (Scen. 3)	Now	Now	

Actions in response to system shortfalls – other systems

Table 44 provides a range of immediate contingency and ongoing actions to provide over 7,500 ML of water for systems other than Moondarra by 2015, which is enough to meet the low river inflow shortfalls and provide an adequate buffer supply of water. Interconnections have not been included in the total volume provided

Table 44: Actions to be taken over next 7 years to meet projected shortfalls

System	Year Demand Exceeds Supply (med climate change scenario)	Year Demand Exceeds Supply (low inflows scenario)	Actions to be Taken Over Next 7 Years
Boolarra	2011	Now	Purchase temporary water Moondarra-Boolarra interconnection
Briagolong	> 2055	> 2055	None
Erica Rawson	> 2055	> 2055	None
Mirboo North	2011	2011	Supply with groundwater Construct raw water storage
Moe	2043	Now	Supply with groundwater Investigate Sunny Creek BE
Sale	> 2055	> 2055	None
Seaspray	2018	Now	Amended Seaspray/Honeysuckles BE & raw water storage

[3] Gippsland Water (2007) Water Security Investment Strategy for the Latrobe System, Gippsland Water, Traralgon.

System	Year Demand Exceeds Supply (med climate change scenario)	Year Demand Exceeds Supply (low inflows scenario)	Actions to be Taken Over Next 7 Years
Tarago	2009	Now	Moe-Tarago interconnection Purchase and transfer of allocations Purchase treated water – Drouin Supply with groundwater
Thomson/Macalister	2035	Now	Purchase permanent water
Thorpdale	2019	Now	Supply with groundwater
Willow Grove	> 2055	> 2055	None

In developing actions outlined in this strategy, Gippsland Water has examined several alternatives. The actions identified have been grouped into four separate strategic categories:

- Conservation and Efficiency;
- System Interconnection;
- Recycle and Reuse; and
- Supply Augmentation.

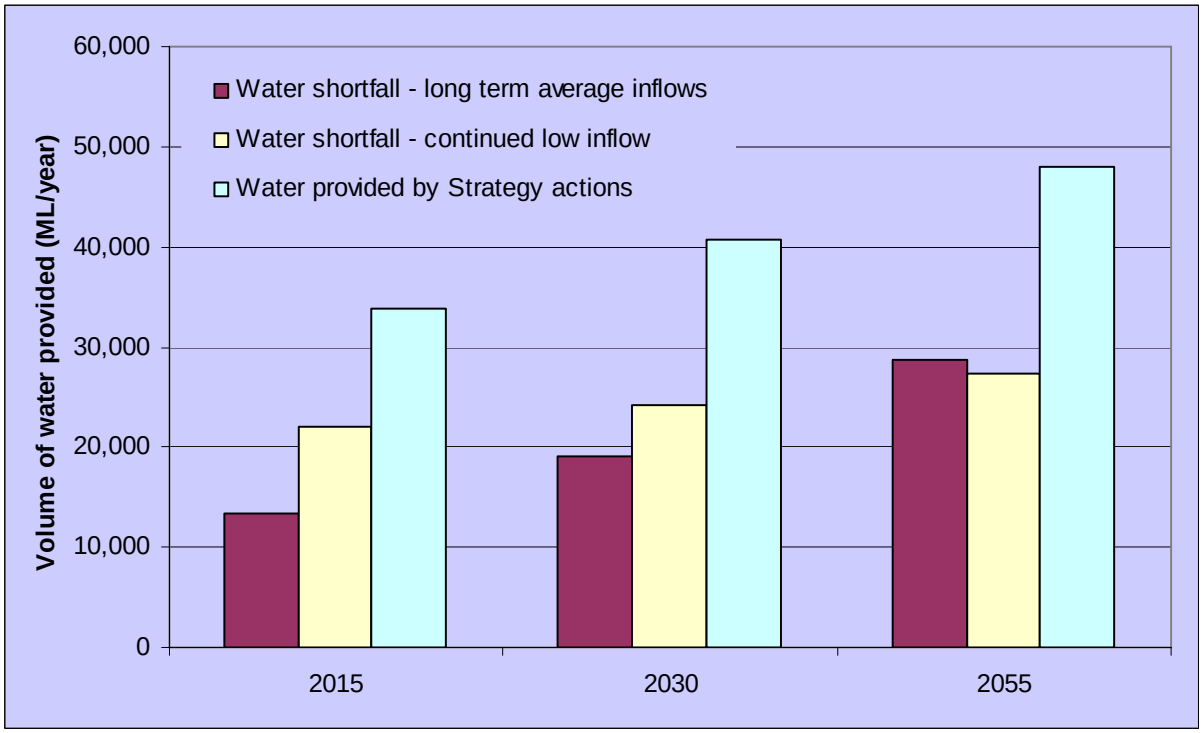
One of the fundamental principles of sustainable water management in Victoria is that a healthy economy and society is dependent on a healthy environment. Increasingly, it is being recognised that the sustainability of our water resources relies on healthy rivers and catchments. To ensure that options deliver the best economic, environmental and social outcomes for the region, a sustainability assessment of options was carried out as part of this Strategy. The sustainability assessment considered impacts on river health, greenhouse gas emissions, water quality and terrestrial ecosystems, in addition to cost and social acceptability.

It is recognised that river systems within the region are stressed, and options have been evaluated against the objectives of the West Gippsland CMA's River Health Strategy, to minimise river health impacts and where possible provide improved river health outcomes.

Many of the actions outlined in this Strategy will require significant capital investment by Gippsland Water. Water authorities across Victoria, including Gippsland Water are currently developing Water Plans, which will be in place for the period from July 2008 to June 2013. Gippsland Water's Water Plan is due for submission to the Essential Services Commission in mid 2007. Gippsland Water will ensure that the capital planning process for this Water Plan includes the projects required to meet all Water Supply Demand Strategy actions that fall within the Water Plan timeframe, funding the delivery of the water indicated in this Strategy.

Figure 5 shows the expected shortfalls in the Gippsland Water region and the water that will be provided by the actions in this Strategy. The dark red bars show the shortfalls based on long-term averages of inflows to reservoirs with gradual medium climate change. The yellow bars show the shortfalls that might be expected if the low inflows of the past 10 years continue. The Strategy provides an action plan to secure water under both these scenarios, shown by the green bars. Interconnections have not been included in the volume provided.

Figure 5: Expected regional shortfalls and water provided by actions in the Strategy



A full copy of Gippsland Water's Water Supply Demand Strategy can be obtained at any time via the "news and publications" and "brochures" section of Gippsland Water's website.

6.3 OVERVIEW OF DEMAND FORECASTS FROM FIRST REGULATORY PERIOD

Gippsland Water's key demand forecasts for the first regulatory period are contained in Table 8 of Annexure A of ESC's 2005 Urban Water Price Review – Gippsland Water Determination including:

- Water assessments (no.);
- Sewerage assessments (no.);
- Billable water consumption (ML);
- Billable Sewerage volumes (ML); and
- Developer lots.

Table 45 shows a comparison of the demand forecasts contained within Table 8 and actual numbers achieved for 2005/06 and Gippsland Water's revised forecasts for 2006/07 and 2007/08. Water and sewerage assessment numbers represent an average of the respective years to enable a direct comparison to forecast numbers contained within Table 8. An average number is used to allow for the timing impact of new connections throughout each year, for tariff revenue calculation purposes only 50% of the new connections for the year are included within the revenue forecasts in the year of connection.

Table 45: Comparison of Demand Forecast against Actual – First Regulatory Period

	2005-06 Final Decision	Actual	2006-07 Final Decision	Forecast	2007-08 Final Decision	Forecast	Total Final Decision	Actual/ Forecast
Water assessments (no.)								
Residential	54,237	55,793	55,076	56,048	55,941	56,554	165,254	168,395
Non-residential	5,761	5,599	5,823	5,611	5,886	5,635	17,470	16,845
Total	**59,998**	**61,392**	**60,899**	**61,659**	**61,827**	**62,189**	**182,724**	**185,240**
Sewerage assessment (no.)								
Residential	46,042	47,474	46,658	47,687	47,343	48,109	140,043	143,270
Non-residential	5,054	4,920	5,096	4,932	5,138	4,954	15,288	14,806
Total	**51,096**	**52,394**	**51,754**	**52,618**	**52,481**	**53,063**	**155,331**	**158,076**
Billable Water consumption (ml)								
Residential	11,864,227	11,161,365	12,057,388	11,018,091	12,255,404	10,756,303	36,177,019	32,935,759
Non-residential	2,634,154	2,540,121	2,663,894	2,730,443	2,694,356	2,741,194	7,992,404	8,011,758
Total	**14,498,381**	**13,701,486**	**14,721,282**	**13,748,535**	**14,949,760**	**13,497,497**	**44,169,423**	**40,947,517**
Billable Sewerage consumption (ml)								
Non-residential	1,048,393	890,710	1,060,230	837,375	1,072,354	840,672	3,180,977	2,568,757
Total	**1,048,393**	**890,710**	**1,060,230**	**837,375**	**1,072,354**	**840,672**	**3,180,977**	**2,568,757**
Developer lots								
Water	894	1,745	1,831	533	533	528	3,258	2,807
Sewerage	700	1,315	718	448	736	442	2,154	2,205

Table 46 shows the actual variance and percentage change between the demand forecasts contained within Table 45 and Gippsland Water's actual numbers/revised forecasts.

Gippsland Water anticipates:

- water and sewerage assessments to be within 1% of the original demand forecasts;
- billable water consumption is down by 7%. The variance will be primarily attributable to the current drought and consumers increased awareness to conserve water;
- billable sewerage volume is down by 20%. The variance is attributable to the initial forecast being based upon inaccurate assumptions; and
- Developer lots are down by 7%. Whilst developer lots exceeded Gippsland Water's expectations in 2005/06, Gippsland Water has seen a significant down turn in development in the 2006/07 and anticipates the growth experienced during 2005/06 will not be sustained.

Table 46: Variance of Demand Forecast against Actual – First Regulatory Period

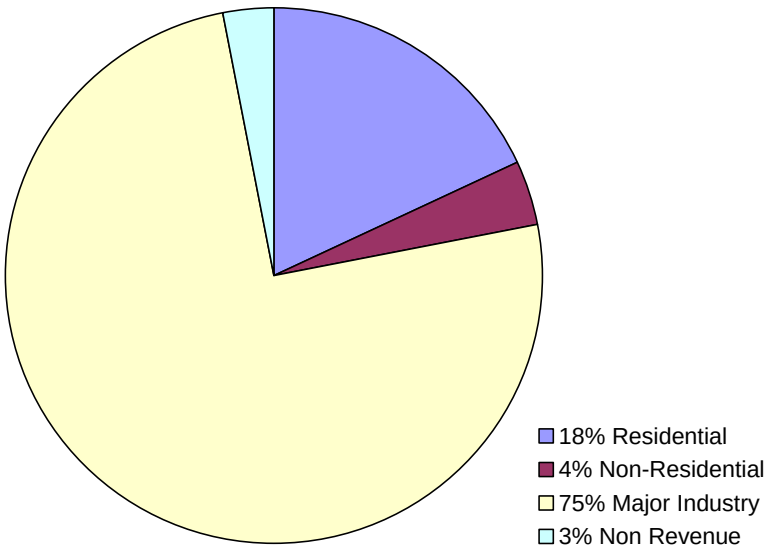
	2005-06		2006-07		2007-08		Total	
	Variance	% Change	Variance	% Change	Variance	% Change	Variance	% Change
Water assessments (no.)								
Residential	1,556	2.87%	972	1.76%	613	1.10%	3,141	1.90%
Non-residential	-162	-2.81%	-212	-3.64%	-251	-4.26%	-625	-3.58%
Total	**1,394**	**2.32%**	**760**	**1.25%**	**362**	**0.59%**	**2,516**	**1.38%**
Sewerage assessment (no.)								
Residential	1,432	3.11%	1,029	2.20%	766	1.62%	3,227	2.30%
Non-residential	-134	-2.65%	-165	-3.23%	-184	-3.58%	-483	-3.16%
Total	**1,298**	**2.54%**	**864**	**1.67%**	**582**	**1.11%**	**2,745**	**1.77%**
Billable Water consumption (ml)								
Residential	-702,862	-5.92%	-1,039,297	-8.62%	-1,499,101	-12.23%	-3,241,260	-8.96%
Non-residential	-94,033	-3.57%	66,549	2.50%	46,838	1.74%	19,354	0.24%
Total	**-796,895**	**-5.50%**	**-972,747**	**-6.61%**	**-1,452,263**	**-9.71%**	**-3,221,906**	**-7.29%**
Billable Sewerage consumption (ml)								
Non-residential	-157,683	-15.04%	-222,855	-21.02%	-231,682	-21.61%	-612,220	-19.25%
Total	**-157,683**	**-15.04%**	**-222,855**	**-21.02%**	**-231,682**	**-21.61%**	**-612,220**	**-19.25%**
Developer lots								
Water	851	95.19%	-1,298	-70.88%	-5	-0.86%	-451	-13.86%
Sewerage	615	87.86%	-270	-37.56%	-294	-39.93%	51	2.39%

6.4 INDIVIDUAL DEMAND FORECASTS

6.4.1 WATER CONSUMPTION

Gippsland Water currently supplies about 65,000 ML of treated and raw water per year to domestic, commercial, and industrial customers. A break down of water users supplied by Gippsland Water is presented in Figure 6.

Figure 6: Total Consumption



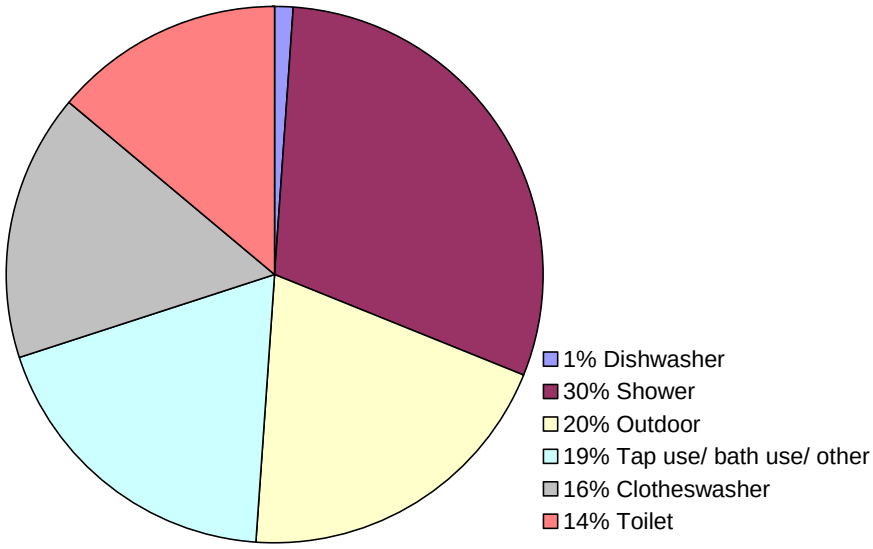
Household Water Use

Approximately 11,000 ML of water is supplied each year to households in the Gippsland Water region. Average residential water use in the Gippsland Water region was 244 litres per person per day in the 1990s, and is currently 233 litres per person per day. While no local figures are available for specific end uses within households, water use in the Gippsland Water region is thought to be similar to Melbourne figures presented in Figure 7, with higher outdoor use due to lower density living (including rural residential properties).

Based on 80% internal use, Gippsland Water households currently use 186 litres per person per day in the kitchen, laundry and bathroom. This compares with northern European water use of 125 litres per person per day. Indoor water consumption is relatively easy to compare as it focuses on a small range of activities such as showering, cooking and clothes washing. There are further opportunities to reduce our indoor water use by installing water efficient appliances (showerheads and washing machines).

Due to the incidence of drought over recent years, we have already experienced a large community behavioural change which has resulted in efficiencies in water usage outdoors. These behaviours include using trigger nozzles on garden hoses, planting native and other drought-tolerant plants, and installation of rainwater tanks. There are further opportunities for increasing water use efficiency outdoors, such as using pipe diverters to use grey water for garden irrigation and the installation of automatic watering systems with soil moisture sensors.

Figure 7: Current Residential Consumption



Major Industry Water Use

Gippsland Water supplies approximately 48,000 ML of water per year to approximately 25 major industry customers, including power, paper and dairy businesses. Major industry water use accounts for over 75% of total water supplied by Gippsland Water, therefore represents the greatest opportunity to conserve water in the Gippsland Water region.

Demand Forecast Assumptions

With population and housing growth and continued adoption of existing water conservation measures, the Gippsland Water region's demand for water (without new actions to reduce demand) will increase to 82,000 in 2030 and 84,000 ML in 2055. With the effects of climate change, this demand could be as high as 84,000 in 2030 and 87,000 ML in 2055 (the baseline demand forecasts used in this Strategy include climate change). Most of this growth is likely to occur as a result of major industry expansion, including both existing and new customers.

The demand increase evident in 2009 is the result of new plant coming on line at Australian Paper. This increase will be more than offset by an increase in yield due to the commissioning of Stage 1 of the Gippsland Water Factory.

Demand forecasts have been estimated for residential, non-residential, major industry, and non-revenue consumption. Non-revenue water comprises losses in the reticulation system and unmetered consumption (Country Fire Authority etc.), and has been calculated as the difference of total treated water supplied and metered consumption. Demand projections have been forecast for the period 2006/07 to 2055/56, based on a 5 year benchmark demand period, from 2000/01 to 2004/05.

Residential demand projections have been forecast using three methods: population based, connection based, and connection/population based. For the population-based method, change in demand is assumed to be proportional to the population change. For the connection-based method, change in demand is assumed to be proportional to the change in residential connections, using connection data held by Gippsland Water. The connection/population based method is calculated using the change in residential connections, adjusted for a 'occupants per dwelling' factor. This factor is calculated as the persons per household in the forecast year divided by the persons per household in the benchmark period, and accounts for a generally decreasing household size. The population/connection projection has been adopted for the residential demand forecast.

Non-residential demand projections have been forecast using a population-based method, with the change in demand assumed to be proportional to the population change. This assumes that new shops and industries are only likely to be established with an increasing population. It has also been assumed that the number of non-residential connections in each town will not decrease below the number of non-residential connections recorded in 2005/06.

Major industry demand projections have been forecast using an average for the benchmark period, or industry-provided forecasts where available.

Gippsland Water liaises closely with its major customers, and is currently discussing the provision of new water services with other large potential industrial customers. Demand over the past five years to major industries supplied by Gippsland Water has been reasonably constant. Current industry water efficiency initiatives are offsetting demand growth from existing industries. It is anticipated that new industries with an estimated demand of 10,000 ML may be established within the region over the next 10 years. The growth assumptions used in the Water Supply Demand Strategy do not account for the introduction of any new or additional major industry. Instead, this Water Supply Demand Strategy acknowledges that the Victorian Government retains control over a significant water entitlement that is held in reserve to support

growth of this nature in the region. Victorian Government support for significant new industry would allow the release of this water to support new development.

The impact of a significant price increase on demand remains unclear. Not all water customers are the same as identified by the Department of Human Services (DHS) in their response to the ESC's 2008 Water Price Review Consultation – Framework and Approach paper. In addition to price, a number of factors influence demand such as household income, household size, level of discretionary use and the ratio of fixed/variable charges.

Targets

Gippsland Water's demand forecasts reflect reductions in consumption resulting from actions identified in our Water Supply Demand Strategy.

As part of the Central Region Sustainable Water Strategy, targets have been set for reductions in drinking water consumption. Targets adopted for the Gippsland Water region are summarised in Table 47. Targets for residential consumption are based on mid 1990s consumption of 244 litres/person/day, with a 25% reduction by 2015 and a 30% reduction by 2020. Total consumption targets (excluding major industry) are consistent with targets for Melbourne.

A 15% reduction on current consumption by 2020 has been adopted for major industry, after consultation with Gippsland Water's major customers.

The development of targets for major industry was identified as an action in the Central Region Sustainable Water Strategy (refer Action 4.43). Gippsland Water has developed the following targets in conjunction with major industry. Targets in the Water Supply Demand Strategy are based solely on water supplied by Gippsland Water to major industry, and therefore exclude any water the industries source from "run of river" and groundwater sources.

The establishment of this target does not in anyway seek to restrict economic development of these major industries in the region. As such, the targets identified exclude any additional water requirements these industries may seek due to future expansion. Savings will be sought from current levels of water consumption, based on current industrial activity.

Table 47: Gippsland Water consumption targets (litres/person/day)

SYSTEM	CRSWS Action	Current (l/p/d)	2015 (l/p/d)	2020 (l/p/d)
Residential Consumption	-	233	183	171
Total (Non-Major Industry) Consumption	4.42	344	317	296
Major Industry Consumption	4.43	985	-	836

The Water Supply Demand Strategy has identified a number of actions to address urban water need of Gippsland Water region as shown in Table 48.

Table 48: Conservation and efficiency actions to address urban water needs of Gippsland Water region

Feasibility/Planning	Construction/Implementation	Water Available

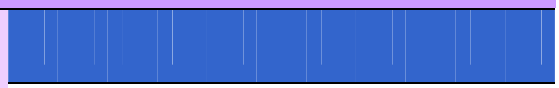
Timing of Implementation	
Action 1 (All systems) – Options A1, A2, A3, A4, A7 To increase water conservation at home, Gippsland Water will work with the Victorian Government and customers to: ➢ promote water efficient showerheads and washing machines in the region ➢ promote removal of all single-flush toilets in the region	
Action 2 (All systems) – Options A5, A6, A8 To minimise water leaks and wastage at home, Gippsland Water will: ➢ fit pressure reducing valves to all existing homes with pressures over 50m on meter changeover ➢ work with suppliers to promote the sale of water efficient taps ➢ provide advice to customers on household leak control.	
Action 3 (All systems) – Option A9 To conserve water outside the home, Gippsland Water will: ➢ work with suppliers to provide information to customers on water sensitive gardening ➢ work with suppliers to promote the sale of native and drought tolerant plants ➢ work with local government and customers to establish water sensitive gardening demonstration sites.	
Action 4 (All systems) – Options A10, A11, A12 To conserve water in major industry, Gippsland Water will work with industry to: ➢ achieve 15% savings in water use by 2020, based on water supplied by Gippsland Water & current (05/06) levels of consumption and industrial activity ➢ continue implementation of the successful savewater!TM efficiency service	
Action 5 (All systems) – Options A13, A14 To conserve water in its own operations, Gippsland Water will: ➢ implement its leak detection and control strategy ➢ pursue opportunities to increase recycling in water treatment plants, without increasing risk to customers.	

Table 49 shows the conversion of these targets from this Water Supply Demand Strategy from 2006/07 to 2014/15 for Water Plan purposes.

Table 49: Annual Average Usage per Residential Property (Water Conservation Target)

	2005/06 Current	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15 Target
Litres per person per day										
Residential Consumption (litres)	233.42	227.23	221.21	215.35	209.64	204.09	198.68	193.41	188.29	183.30
- Convert above into kilolitres per person per year										
- (litres x 365 days)/1000										
Kilolitres per person per year										
Residential Consumption (kilolitres)	85.20	82.94	80.74	78.60	76.52	74.49	72.52	70.60	68.73	66.90
- Convert above into kilolitres per connection per year										
- Establish number of persons per connection per year (population/residential connections)										
- Multiply above kilolitres per person by persons per connection										
Annual Population (VIF data by SLA amended for % of connections)	131005	132843	133217	133562	133878	134163	134435	134698	134951	135204
Annual Residential Connections (GW supplied)	52749	53258	53763	54314	54844	55370	55892	56417	56939	57458
Average persons per connection	2.4835	2.4943	2.4779	2.4591	2.4410	2.4230	2.4053	2.3876	2.3701	2.3531
Kilolitres per connection per year	**212**	**207**	**200**	**193**	**187**	**180**	**174**	**169**	**163**	**157**

Table 49 shows the water usage which forms the basis of the Water Plan, however in any given year residential water consumption can vary significantly. For example consumption in 2002/03 reached a high of 245KL compared to 2004/05 where it reduced to 210KL.

This variation has an indirect relationship to the number of rainfall events which occur during the summer months. That is the more frequent the rainfall events in summer the lower the residential water usage. Gippsland Water relies on the five year historical water consumption average. However in this region of Victoria the variability in the actual usage compared to the five year average can generate an unforseen gain or reduction to the revenue stream of +/- $1m in one year.

Figure 8 demonstrates the correlation between rainfall events during summer (as recorded at the Latrobe Valley Airport) and the regional annual average residential water consumption. That is the longer the period between rainfall events the higher the average annual consumption. Typically this increased consumption will result from garden watering.

Figure 8 – Rainfall events Vs Annual residential consumption

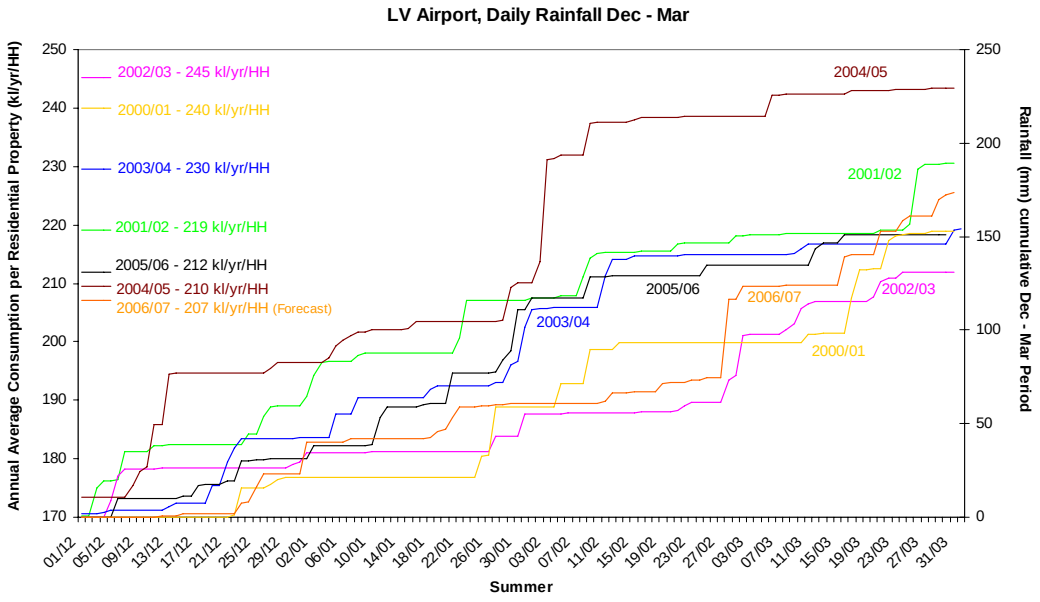


Figure 9 depicts the actual annual average residential property usage since 1996/97 and the forecast average annual usage over the Plan period

Figure 9: – Average Residential Consumption

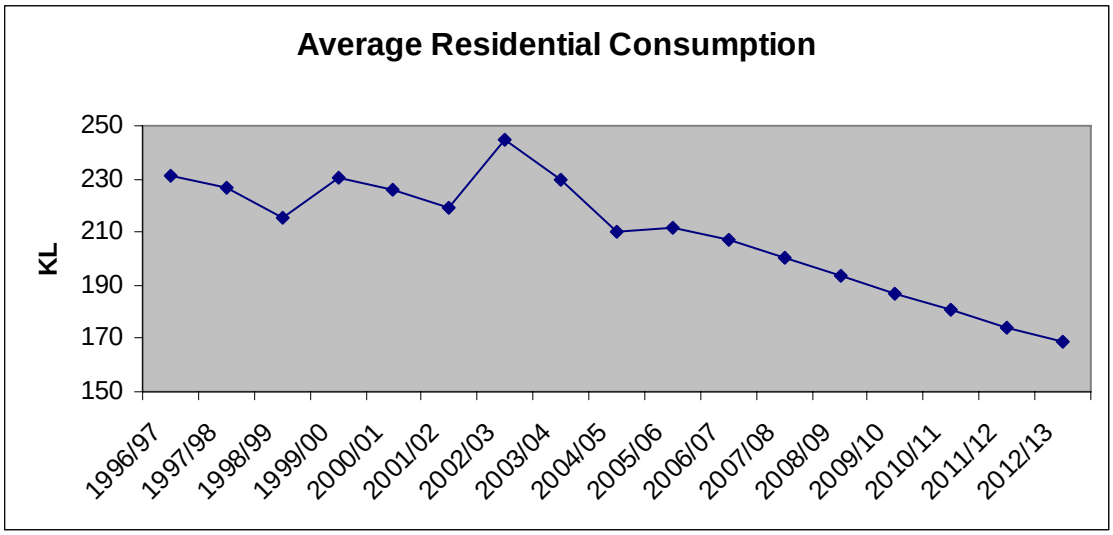


Table 50 and Table 51 show the actual annual average usage per property.

Table 50: Annual Average Usage per Residential Property

Kl p.a.	Actual				Forecast	
	2002-03	2003-04	2004-05	2005-06	2006-07	Average
Residential Properties	245	230	210	212	207	221

Table 51: Annual Average Usage per Non Residential Property

Kl p.a.	Actual				Forecast	
	2002-03	2003-04	2004-05	2005-06	2006-07	Average
Non Residential Properties	511	494	461	458	491	483

Figure 10 shows the historical trend since 1996/97 of major customer's consumption and the forecast average annual usage over the Water Plan period. The historical trend shows major customers consumption has been relatively stable. In 2000/01 water efficiency improvements in the production processes at Australian Paper and Loy Yang Power have seen a step reduction in water consumption. In 2009/10 water consumption is forecast to increase as a result of the Australian Paper expansion project.

Figure 10: – Major Customers Consumption

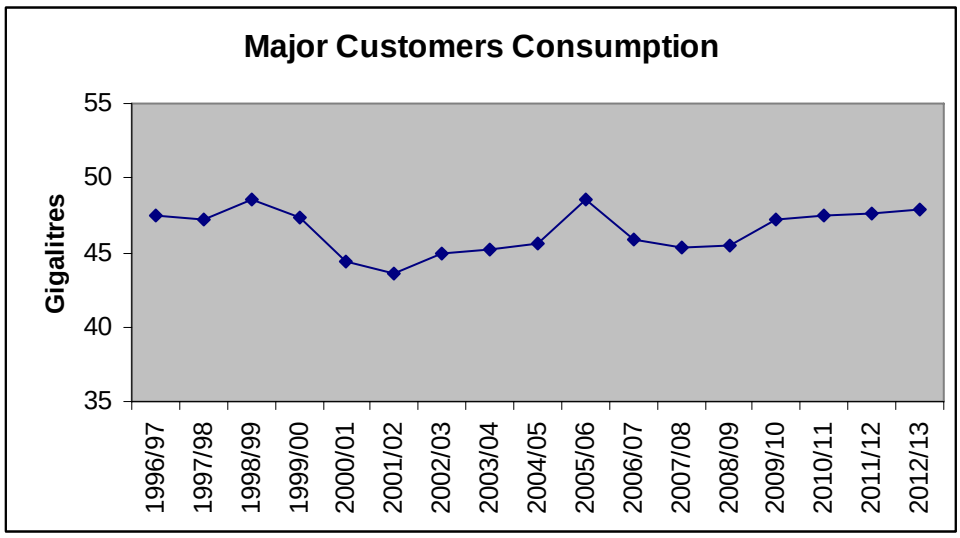


Table 52 provides the summary basis for the total demand forecast based on consumption per customer group

Table 52: Consumption per Customer Group

	Actual				Forecast		Water Plan Forecast				
	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Residential											
- Properties	49,640	50,443	51,195	52,749	53,258	53,763	54,314	54,844	55,370	55,892	56,417
- Est. annual usage per property (kl)	245	230	210	212	207	200	193	187	180	174	169
Total Residential Usage (kl)	**12,161,800**	**11,601,890**	**10,750,950**	**11,161,365**	**11,018,091**	**10,756,303**	**10,498,385**	**10,244,323**	**9,994,102**	**9,748,967**	**9,509,199**
Non Residential											
- Properties	5,279	5,347	5,277	5,544	5,568	5,592	5,616	5,640	5,663	5,686	5,709
- Est. annual usage per property (kl)	512	494	460	458	490	490	490	490	490	490	489
Total Non Residential Usage (kl)	**2,700,300**	**2,642,200**	**2,429,500**	**2,540,121**	**2,730,443**	**2,741,194**	**2,751,945**	**2,762,695**	**2,773,021**	**2,783,347**	**2,793,673**
Major Customers											
- Treated Water (kl)	2,939,000	3,175,160	3,123,588	3,249,610	3,169,450	3,050,200	3,050,200	3,050,200	3,050,200	3,050,200	3,050,200
- Raw Water (kl)	41,936,000	41,489,000	42,566,862	45,259,253	42,611,100	42,221,100	40,921,100	41,221,100	41,421,100	41,621,100	41,821,100
- Recycled Water (kl)							1,500,000	3,000,000	3,000,000	3,000,000	3,000,000
Total Major Client Usage (kl)	**44,875,000**	**44,664,160**	**45,690,450**	**48,508,863**	**45,780,550**	**45,271,300**	**45,471,300**	**47,271,300**	**47,471,300**	**47,671,300**	**47,871,300**
Non Revenue Water (kl)	4,195,600	5,014,640	3,830,900	1,958,500	3,243,000	4,261,000	4,326,000	4,392,000	4,459,000	4,459,000	4,459,000
Total Demand (kl)	**63,932,700**	**63,922,890**	**62,701,800**	**64,168,849**	**62,772,085**	**63,029,797**	**63,047,629**	**64,670,318**	**64,697,423**	**64,662,614**	**64,633,171**

6.4.2 PROPERTY CONNECTIONS

Demand forecasts are based on water supply data held by Gippsland Water, census data for each of the towns supplied, and population and dwelling projections from the Victorian Government's 'Victoria in Future'.

The historical Total Population and Occupied Dwellings for each town use census data, sourced from 'Know Your Area' (www.dse.vic.gov.au). Total Population and Occupied Dwellings have been projected based on 'Victoria in Future' population and dwelling projections, also sourced from 'Know Your Area' (www.dse.vic.gov.au). For each town, projections for the Statistical Local Area (SLA) associated with that town have been used, assuming equivalent proportional rates of change.

Water

All water systems are estimated to experience some growth in new residential water property connections. New connections in non-residential water properties continue to be less than residential. Gippsland Water is estimated to experience average growth in residential water property connections of 0.97% and non residential water property connections of 0.41%.

The Warragul/Drouin and Neerim South/Noojee areas are forecast to experience the highest number of new connections in residential water properties, experiencing an average growth of 1.94% p.a. in residential properties. The Warragul/Drouin area is also forecast to experience and 1.15% in non residential properties. Traralgon is also anticipated to continue to have strong growth of 1.53% p.a. in residential properties.

Forecast growth for this Plan period is based upon Table 53 for new water connections.

Table 53: Average Growth in New Property Water Connections by System

NEW PROPERTY WATER CONNECTIONS ESTIMATED GROWTH RATES				
	Residential		Non Residential	
	Forecast 30/6/08 No. of Connections	Estimated Growth Rate % p.a.	Forecast 30/6/08 No. of Connections	Estimated Growth Rate % p.a.
Boolarra	283	1.18%	27	0.00%
Briagolong	268	0.87%	21	0.00%
Coongulla/Glenmaggie	379	0.81%	9	0.00%
Erica/Rawson	281	0.92%	39	0.00%
Heyfield	791	0.81%	108	0.00%
Maffra/Stratford	2,725	0.81%	297	0.00%
Mirboo North	670	1.41%	86	1.14%
Moe/Newborough	9,893	0.38%	822	0.00%
Morwell/Churchill	9,863	0.08%	1,070	0.00%
Neerim South/Noojee	569	1.94%	67	1.45%
Sale	6,217	0.88%	772	0.13%
Seaspray	315	0.70%	12	0.00%
Thorpdale	71	0.92%	19	0.00%
Toongabbie/Cowwarr	406	1.18%	27	0.00%
Traralgon	10,376	1.53%	982	0.74%
Tyers/Glengarry/Rosedale	1,360	0.70%	123	0.00%
Warragul/Drouin	9,160	1.94%	1,101	1.15%
Willow Grove	133	0.92%	10	0.00%
Total	**53,763**	**0.97%**	**5,592**	**0.41%**

Wastewater

All systems are estimated to experience some growth in residential wastewater connections. New connections in non residential wastewater properties are estimated to be less during the Plan period. Gippsland Water is estimated to experience average growth in residential wastewater property connections of 0.95% and non residential water property connections of 0.41%.

The highest percentage growth in new connections in residential wastewater properties is estimated to be in Neerim South 1.94%, Warragul 1.94%, Drouin 1.94% and Traralgon 1.53%.

In addition anticipates the new small towns of Seaspray (2008/09) Glenmaggie (2011/12), Coongulla (2013/14) and Loch Sport (2012/13) to be connected to wastewater services which will in additional 330, 77, 240 and 1,450 properties respectively.

Forecast growth for this Water Plan period is based upon Table 54 for new wastewater connections.

Table 54: Estimated Growth in New Property Waste Connections by System

NEW PROPERTY WASTE WATER CONNECTIONS ESTIMATED GROWTH RATES				
	Residential		Non Residential	
	Forecast 30/6/08 No. of Connections	Estimated Growth Rate %	Forecast 30/6/08 No. of Connections	Estimated Growth Rate %
Boolarra/Churchill/Yinnar	2,366	0.19%	124	0.00%
Coongulla	-		-	
Erica/Rawson	141	0.92%	16	0.00%
Drouin	2,464	1.94%	223	1.31%
Glenmaggie	-		-	
Heyfield	668	0.81%	85	0.00%
Loch Sport	-		-	
Maffra	1,838	0.81%	197	0.00%
Mirboo North	486	1.41%	75	0.53%
Moe	8,658	0.38%	725	0.00%
Morwell/Hazelwood	6,527	0.08%	889	0.00%
Neerim	241	1.94%	44	2.18%
Sale	5,898	0.88%	696	0.14%
Seaspray	-		-	
Stratford	571	0.87%	66	0.00%
Toongabbie/Glengarry	167	1.18%	6	0.00%
Traralgon	9,784	1.53%	934	0.74%
Rosedale	460	0.70%	63	0.00%
Warragul	4,600	1.94%	696	1.12%
Willow Grove	100	0.92%	7	0.00%
Yallourn North	577	0.38%	30	0.00%
Total	**45,543**	**0.95%**	**4,876**	**0.41%**

The number of non connected properties serviced by both water and wastewater during the regulatory period is forecast to remain at 2005/06 levels.

Appendix 7 contains detailed breakdown of demand forecasts by town/system and by tariff.

To allow for the timing impact of new connections throughout each year, 50% of the new connections for the year are included within the tariff revenue forecasts in the year of connection for the regulatory period.

6.4.3 VOLUMETRIC SEWERAGE

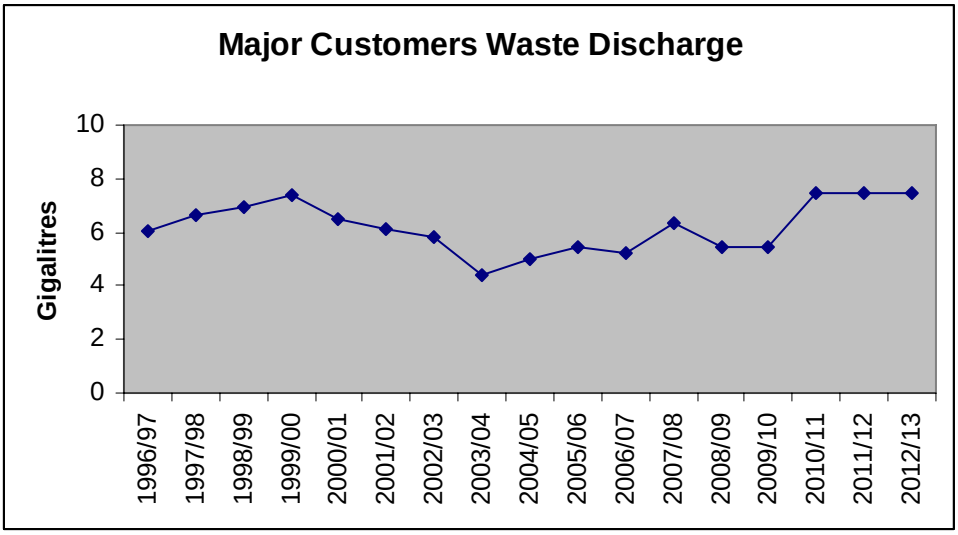
A Wastewater Volumetric Charge applies to non residential properties which use in excess of 100 kilolitres of water in any four month period. Annual average volumes (KL per annum) used in this plan are detailed in Table 55.

Table 55: Annual Average Volumetric Sewerage per Non Residential Property

KL p.a.	2002/03	2003/04	2004/05	2005/06	2006/07	Average
Non Res Properties	151	148	147	184	173	161

Figure 11 shows the historical trend since 1996/97 of major customer's waste discharge and the forecast average discharge over the regulatory period. In 2009/10 wastewater discharge is forecast to increase as a result of the Australian Paper expansion project.

Figure 11: Major Customers Waste /Discharge



6.4.4 DEVELOPER CHARGES

Based upon the forecast growth in connected properties as detailed in Section 6.4.2

Table 56 provides a summary of the projected growth in new properties for water and wastewater services for residential and non residential properties. Whilst to allow for the timing impact of new connections throughout each year, 50% of the new connections for the year are included within the tariff revenue forecasts in the year of connection for the regulatory period it is assumed from a developer charges perspective new customer connection fees are received in full in the year of connection.

Table 56: Projected Growth in Property Numbers

	2008-09	2009-10	2010-11	2011-12	2012-13
Water					
Residential Properties					
Connected	552	530	526	522	525
Non Connected	-	-	-	-	-
Non Residential Properties					
Connected	24	24	23	23	23
Non Connected	-	-	-	-	-
Waste					
Residential Properties					
Connected	790	441	438	535	754
Non Connected	-	-	-	-	-
Non Residential Properties					
Connected	21	21	21	21	21
Non Connected	-	-	-	-	-

6.4.5 TRADEWASTE FORECASTS

Gippsland Water has several hundred 'Minor Trade Waste customers'. Gippsland Water is not currently collecting a Minor Trade Waste Fee from all relevant customers and has therefore invested resources to identify those businesses which are not registered as Minor Trade Waste customers. The identification process entails a detailed physical verification of each town within the Gippsland Water region that has wastewater services available. Each customer is being personally contacted by the Gippsland Water Minor Trade Waste Officer to ensure compliance.

Table 57 shows actual/forecast minor trade waste customers since 2002/03 through to the end of the first regulatory period.

Table 57: Actual/Forecast Minor Trade Waste Customers

	Actual				Forecast	
	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Trade Waste Customers	488	438	340	422	504	630

Table 58 shows forecast minor trade waste customers for this regulatory period.

Table 58: Forecast Minor Trade Waste Customers

	Forecast					
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Trade Waste Customers	788	984	1,230	1,254	1,254	1,254

6.4.6 MISCELLANEOUS SERVICES

Miscellaneous services are considered on an item by item basis, and collectively represent less than 4% of total income generated (including income for capital purposes). Miscellaneous services comprise:

- revenue from charges including water and wastewater connection fees, fire service fees, land development fees and miscellaneous fees; and
- revenue from other sources including rental income, refunds/rebates and employee salary contributions.

Miscellaneous revenue items resulting from property connections such as meter fees, tapping fees and connection fees are consistent with the forecast growth in new connections and based upon historical trends. All other miscellaneous items were considered on an item by item basis and forecasts are based upon best information available.

Table 59: Miscellaneous Services

$m, 1/1/07	2008-09	2009-10	2010-11	2011-12	2012-13
Miscellaneous Fees	1.74	1.72	1.72	1.74	1.71
Other Sources	0.63	0.64	0.63	0.62	0.63
Total	2.37	2.36	2.34	2.36	2.34

7.0 PRICES

7.1 TARIFF STRUCTURES

The Gippsland Water tariff structure for water is a two part tariff, comprising a fixed service fee, and a volumetric charge. The Gippsland Water tariff structure for wastewater comprises a fixed service fee for residential customers, while non residential customers are charged both a fixed service fee and a volumetric charge.

Gippsland Water adopts a uniform tariff across all the towns serviced by treated water and wastewater reticulation systems within the region. Reviews undertaken by Gippsland Water clearly demonstrate that any approach to move to a non-uniform tariff would have a significant impact on customers who rely upon Gippsland Water's smaller reticulation systems. In these instances, the tariffs required to recover operating and capital costs would significantly exceed the levels established under a uniform tariff.

7.1.1 UNDERLYING COST JUSTIFICATION

Long Run Marginal Cost is the change in cost resulting from a change in demand assuming all factors of production can be varied. Ideally Long Run Marginal Cost shows regard to the full social marginal cost (including externalities). Long Run Marginal Cost is a forward looking concept, signalling the long term consequences of consumption decisions.

From a theoretical viewpoint, Long Run Marginal Cost provides for efficient price signals by encouraging greater consideration of the long run relationships between demand and expenditure, encouraging efficient investment decision and efficient procurement and provision decisions. Long Run Marginal Cost sends appropriate sustainability signals to customers.

In previous deliberations, the Essential Services Commission has outlined that Long Run Marginal Cost estimates form one of the principal considerations underlying the setting of variable charges, including the two part tariff structure used by Gippsland Water. In essence, the variable charge should reflect Long Run Marginal Cost and the fixed charge should reflect the residual revenue requirement.

Departures from Long Run Marginal Cost pricing may exist where there is uncertainty in forecasts, transitional issues relating to customer impacts, and short run security of supply issues. At a minimum the Essential Services Commission indicated that it would expect all proposed variable charges to show consideration for Long Run Marginal Cost estimates.

In establishing guidance for the development of this Water Plan, the Essential Services Commission has proposed that:

> Where appropriate, tariff proposals should be accompanied by supporting evidence regarding cost drivers. For example, where there is a proposal to significantly increase a variable charge on the basis of better signalling future capital expenditures incurred by a business in maintaining its demand/supply balance, the proposal should be accompanied by estimates of long run costs and the drivers behind these costs[4].

[4] Essential Services Commission 2006, 2008 Water Price Review Guidance on Water Plans, September. P37

If businesses wish to support their proposals with estimates of long run marginal cost they will need to include the following[4]:

- the cost estimate;
- the validity of the estimate;
- the drivers behind the estimate, i.e. any associated demand supply balance issues that need to be addressed in the future; and
- an appendix containing a working version of the model used to generate the estimate.

Where businesses are proposing that prices are being used to provide signals to customers, businesses will need to demonstrate how tariffs have been structured to ensure that those signals are being sent. For example, businesses would need to show how they have had regard to long run marginal cost[5].

As discussed earlier in section 4.2.2.6, Gippsland Water is seeking to survey all of its 60,000 water customers in relation to inclining block tariffs for water consumption, to determine community attitude in moving to an inclining block tariff approach. The decision to survey customers has resulted from positive feedback received during discussions with local focus groups in relation to inclining block tariffs.

One of the issues associated with inclining block tariffs (as with other tariff Structures) is their potential to adversely impact on a customer's consumption decision. If the first threshold level is set too high, and/or the accompanying price is set below marginal cost, businesses are unlikely to effectively target discretionary water use and may perversely provide customers with incentives to increase water use. If the threshold is set too low and/or the accompanying price set above marginal cost, businesses run the risk of unnecessarily constraining non-discretionary water use[5].

Gippsland Water is not proposing to change the current two part tariff structure, which consists of a fixed fee and a variable charge, and has been in place for several years.

However, Gippsland Water will reconsider the introduction of inclining block tariffs should the results of the customer survey provide strong support for their introduction.

While not proposing to move to inclining block tariffs at this stage, Gippsland Water has undertaken a long run marginal cost exercise in conjunction with external consultants to review the variable cost of water, specifically for the region's major discernable system, the Moondarra water supply system.

The modelling was undertaken using the Essential Services Commission's Long Run Marginal Cost model and adopted the perturbation approach. Results can be summarised as follows:

- an average long run marginal cost of $1.12 over the modelling period; and
- a maximum long run marginal cost of $1.74.

Gippsland Water places little confidence in these estimates due to a high level of uncertainty regarding the key assumptions. In particular:

[5] Essential Services Commission 2006, 2008 Water Price Review Consultation – Framework and Approach, December. P60,61

- uncertainty regarding demand over the modelling period — contracted demand scenarios which are significantly in excess of historical and forecasted demands, but are presently being called upon as a result of the continuing drought; and
- uncertainty surrounding works included in the forward capital program — capital expenditure programs which seek to provide for this contracted demand, rather than observed historical or forecasted demand.

The ESC will also be aware of the 'low inflows' modelling that has been undertaken by water authorities in recent months as part of the water supply demand strategy process. This modelling indicates that the supply demand balance for the Moondarra system is current in breach, with severe shortfalls in water supply. The basic premise of the perturbation approach to LRMC estimation is that the system in question is in a steady state. This is obviously not the case in Moondarra.

While Gippsland Water holds little confidence in the LRMC point estimates, they may be indicative of a high actual LRMC for the system. Taking this into consideration, Gippsland Water is proposing to increase variable tariffs from their current levels.

7.1.2 CHANGES IN CUSTOMER BEHAVIOR

The Gippsland Water tariff structure for residential customers presently consists of a two part tariff for water, comprising a fixed service fee and a volumetric charge, and a fixed fee for wastewater services.

In the context of developing this Water Plan, the feedback on inclining block tariffs from the focus groups is in stark contrast to feedback received during the development of the 2005/06 – 2007/08 Water Plan. During the course of the 2003/04 year Gippsland Water explored with domestic customers the suitability and customer acceptance of inclining block tariffs for water. Under this approach, customers pay an increasing charge after reaching a threshold level.

Whilst the inclining block tariff structure initiative is aligned with the Victorian Government's aim of utilising pricing arrangements to drive sustainable management of Victoria's water resources, customers indicated that they were not yet willing to embrace these initiatives. Independent research undertaken by Nexus in 2003/04 concluded that 81% of customers felt that the current water billing system where they paid for each litre of water used was fair.

However, when considering alternatives to the water billing system:

- 66% preferred the current system for calculating their water accounts; and
- 23% preferred an excess water tariff where they're allocated an amount of water at one price and once this is used additional water is charged at a higher price per litre.

Accordingly, Gippsland Water at that time concluded that the current tariff structure provided sufficient price stimulation to encourage water conservation initiatives.

On this occasion, the feedback from focus groups almost unanimously supported the introduction of both an inclining block tariff structure, and the introduction of guaranteed service levels as these measures lend support to the conservation of water, and ensure that Gippsland Water strives to achieve service standards.

Given this support from the focus groups, Gippsland Water included a series of questions on inclining block tariffs in a recently completed customer satisfaction survey. While results from this survey are yet to be formalised, initial feedback from the survey, which was conducted by phone with 375 Gippsland Water customers, provides a far less conclusive picture. 44% of the participants surveyed preferred an inclining block tariff structure, while 38% preferred the current tariff structure. Significantly, 18% of the participants were undecided.

Gippsland Water now proposes to conduct a large scale consultation process which will target all customers, to better understand the support within the customer base for an inclining block tariff structure. Gippsland Water intends to undertake this consultation during the period to early October 2007, and would expect that any findings could be identified and considered with the submission of its final Water Plan.

Should the findings of this process align with the level of focus group support for these initiatives, Gippsland Water will need to determine a timeframe for their implementation. Given the nature of the changes required to allow computerised billing systems utilise inclining block tariffs and guaranteed service levels, Gippsland Water will need to ensure a thorough development and testing regime. Current thinking is that a 2009/10 implementation would be achievable, with implementation unlikely any earlier.

7.1.3 CUSTOMER IMPACT ISSUES

Gippsland Water has a Hardship policy that details procedures for assisting our residential customers. Without limiting this general obligation, the hardship policy provides internal assessment processes:

- To determine a customer's eligibility using objective criteria as indicators of hardship;
- Designed to make an early identification of a customer's hardship;
- To determine the internal responsibilities for the management, development, communication and monitoring of the policy;
- To provide staff training about Gippsland Water's policies and procedures and to ensure customers in hardship are treated with sensitivity and without making value judgements; and
- To exempt customers in financial hardship from restriction of water supply, debt recovery action and additional debt recovery costs while payments are made to Gippsland Water according to an agreed flexible payment plan or other payment schedule.

Gippsland Water issues several reminder notices to customers which outline the wide variety of payment arrangements available in accordance with their ability to pay. Gippsland Water completes an exhaustive process to ensure that we actively identify customers who may be experiencing times of hardship and apply every effort in order to work with and assist them in managing their accounts. We also have a team dedicated in attempting to contact all customers by telephone and in writing prior to considering debt recovery action.

Gippsland Water customers are able to make payments on their account in a variety of ways. These include Australia Post, 24 hour Credit Card payment option, Direct Debit, BPay, Centrepay, mailing payment to Gippsland Water, Internet and in person at Gippsland Water.

If a customers personal circumstances warrant special consideration, they may apply for a case review under Gippsland Water's Hardship Policy. Customers who will be considered include:

- People on low or fixed incomes;

- People who may have experienced a sudden change in circumstances (such as ill health, unemployment, separation, a death in the family, a loss arising from an accident), or some other temporary financial difficulty;
- People who, through self assessment, have identified their position regarding ability to pay.
- People eligible for a government funded concession (eg. Health Concession Card, Social Security benefit, etc.);
- People who have previously applied for a Utility Relief Grant; and
- People whose payment history indicates that they have had difficulty meeting Gippsland Water's payment terms in the past.

Gippsland Water customers experiencing financial hardship have the right to:

- Be treated respectively, sensitively, and without judgement;
- Have their case individually considered, and their circumstances kept confidential;
- Receive prompt information on options for alternative payment arrangements, Gippsland Water's Hardship Policy and government concessions (including the Utility Relief scheme and other government financial assistance programs;
- Negotiate an amount they can afford to pay on an arrangement plan;
- Choose from various payment methods and receive written confirmation of the agreed payment arrangement within 14 days;
- Re-negotiate the amount of their instalment if there is a change in their circumstances;
- Receive information about free, independent and accredited counselling services;
- Receive a language interpreter service at no cost;
- Speak with a Gippsland Water representative who is familiar with their situation in order to re-negotiate their payment arrangement, if a payment has been missed or is likely to be missed;
- Be advised about how to minimise future water usage; and
- Be advised about their right to lodge a complaint with the independent dispute resolution scheme (Energy and Water Ombudsman of Victoria) if their affordability issue is not resolved with Gippsland Water.

Escalation of Customer Enquires:

Gippsland Water's Representatives will escalate Hardship enquires to a supervisor if a suitable repayment arrangement within the customers capacity cannot be reached. To determine if a customer warrants special consideration, Gippsland Water will arrange to meet with the customer to further review their position regarding ability to pay and assistance available under Gippsland Water's Hardship Policy.

7.2 TARIFF PROPOSALS

Detailed below are the actual tariffs that Gippsland Water will seek to apply for the period of this Water Plan. The tariffs are presented on the basis of major service provision, and are thus separated into segments for water, wastewater, major clients, recycled water, trade waste, land development, property connections, rechargeable works and miscellaneous services.

7.2.1 WATER

Charges set by resolution of the Gippsland Water Board apply for the Water Districts of Boisdale, Boolarra, Briagolong, Buln Buln, Churchill, Coongulla, Cowwarr, Darnum, Drouin, Erica, Glengarry, Glenmaggie, Hazelwood North, Heyfield, Jindivick, Maffra, Mirboo North, Moe, Morwell, Neerim South, Newborough, Nilma, Noojee, Rawson, Rokeby, Rosedale, Sale, Seaspray, Stratford, Thorpdale, Toongabbie, Trafalgar, Traralgon, Traralgon South, Tyers, Warragul, Willow Grove, Wurruk, Yallourn North, Yarragon, Yinnar

7.2.1.1 Water Service Availability

A Water Service Availability Charge applies to all properties in all Water Districts where the water main passes through, or fronts a property or is capable of providing a service to the property.

The water service availability charge is a contribution towards the cost of providing the water supply to the property and is charged according to the size of the service. Non-connected properties pay the minimum availability charge.

Table 60: Water Service Availability Charge (per annum)

$Jan 07	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
No Connection	40.75	40.75	50.00	61.34	67.47	74.22	81.64
20mm Connection	81.56	81.56	100.07	122.77	135.05	148.55	163.41
25mm Connection	81.56	81.56	100.07	122.77	135.05	148.55	163.41
32mm Connection	209.03	209.03	256.46	314.65	346.11	380.72	418.79
40mm Connection	326.26	326.26	400.29	491.11	540.22	594.24	653.67
50mm Connection	509.82	509.82	625.50	767.42	844.16	928.57	1,021.43
75mm Connection	1,147.07	1,147.07	1,407.33	1,726.65	1,899.31	2,089.24	2,298.17
80mm Connection	1,305.23	1,305.23	1,601.38	1,964.72	2,161.19	2,377.31	2,615.04
100mm Connection	2,039.28	2,039.28	2,501.98	3,069.66	3,376.63	3,714.29	4,085.72
150mm Connection	4,588.46	4,588.46	5,629.55	6,906.86	7,597.55	8,357.31	9,193.04

Multi Tenement Properties

For multi tenement properties such as flats, units, town houses, shops and shopping arcades etc, connected to the water supply service, an annual Water Service Availability Charge of $81.56 applies to each separate occupancy on that property, irrespective of the size of the service, whether the property is separately metered or whether the property is occupied or vacant. Multi tenement properties sharing a fire service will have the charge equally apportioned between each occupancy.

Residential Tenants

Where a residential property is separately metered, and subject to a tenancy agreement under the Residential Tenancies Act, the tenant pays for Water Usage only. The Service Availability Charges are paid by the landlord.

7.2.1.2 Water Usage Charge

The property owner is liable for all water usage charges levied at a rate per kilolitre, unless the property is subject to a tenancy agreement under the Residential Tenancies Act.

Tenants and Caravan Park residents who are covered under the Residential Tenancies Act are only liable for any water usage charges if:

- Their supply of water is measured by a separate meter owned, installed and maintained by Gippsland Water;

- Gippsland Water has read the meter on receiving notification that a tenant now occupies the residency.

Reading water meters

Customers will be sent accounts at least every four months for service charges and water usage charges within two working days after Gippsland Water has read the meter or estimated the meter reading. If an estimated reading is required, it will be calculated:

- By having regard to the quantity of water delivered to the land in any previous or subsequent period or periods.

- By having regard to the quantity of water delivered to any similar property during the period concerned.

- In any other way that is prescribed.

Estimated accounts will be provided free of charge.

Notional usage charge

Where a property is connected to Gippsland Water's water service but is unmetered, a notional usage charge equivalent to the cost of 240 kilolitres of water per annum is charged.

Water Usage Charge

Table 61: Water Usage Charge

$Jan 07	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Consumption Charge							
Treated Water (per Kl)	0.9432	0.9432	1.1572	1.4198	1.5617	1.7179	1.8897
Raw Water (per Kl)	0.5267	0.5267	0.6462	0.7928	0.8721	0.9593	1.0553
Notional Charge (per annum) (where no meter exists)	226.37	226.37	277.73	340.75	374.82	412.30	453.54

7.2.1.3 Water supplied via metered hydrant or stand pipe or token sales

The usage charge for all water supplied via metered hydrant, stand pipe or token sales is shown in Table 62.

Table 62: Water supplied via metered hydrant or stand pipe or token sales

$Jan 07	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Water Supplied (per Kl)	2.1100	2.1100	2.5887	3.1761	3.4937	3.8431	4.2274
Annual Fee	105.00	105.00	128.82	158.05	173.86	191.24	210.37

7.2.1.4 Fire Service Fees

Private fire services may be installed without meters provided that every fire-hose tap is sealed in an approved manner and kept sealed unless otherwise approved in writing by Gippsland Water.

Except in the case of fire or by written consent of Gippsland Water no person shall wilfully break the seal affixed to any fire-hose tap.

In the event of any such seal being broken the occupier of the property shall, within two working days thereafter, give Gippsland Water notice in writing of such breakage.

Gippsland Water may, by approval given in writing, waive the requirement to keep any hose-tap sealed provided that Gippsland Water is satisfied that no water drawn there from will be used for purposes other than for fire-fighting, fire-fighting practice or for testing and proving the fire-service installation.

Gippsland Water may at any time revoke any approval given and may require that meters shall be fitted at the owner's expense to measure all water supplied.

The following fees shall be payable to Gippsland Water in respect of private fire service installations:

- for each private fire service the annual fee. The fire service availability charge is a contribution towards the cost of providing a water service to hose reels, hydrants or sprinkler systems for fire fighting purposes only.
- for the provision of design information in accordance with the requirements of the Building Regulations 1994
- for sealing by Gippsland Water of fire hose taps.

Fire service availability charges apply to non-residential properties only.

Table 63: Fire Service Availability Charge (per annum)

$Jan 07	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
20mm Connection	20.42	20.42	25.05	30.74	33.81	37.19	40.91
25mm Connection	20.42	20.42	25.05	30.74	33.81	37.19	40.91
32mm Connection	52.23	52.23	64.08	78.62	86.48	95.13	104.64
40mm Connection	81.58	81.58	100.09	122.80	135.08	148.59	163.45
50mm Connection	127.45	127.45	156.37	191.85	211.03	232.13	255.35
75mm Connection	286.83	286.83	351.91	431.76	474.93	522.43	574.67
80mm Connection	326.28	326.28	400.31	491.14	540.25	594.28	653.71
100mm Connection	509.81	509.81	625.48	767.40	844.14	928.56	1,021.41
150mm Connection	1,147.09	1,147.09	1,407.36	1,726.68	1,899.35	2,089.28	2,298.21

Table 64: Fire Service Information Fee

$Jan 07	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Information Fee	126.00	126.00	154.59	189.66	208.63	229.49	252.44

Table 65: Sealing Fire Hose Taps

$Jan 07	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
First Tap	53.50	53.50	65.64	80.53	88.59	97.44	107.19
Additional Taps	3.00	3.00	3.68	4.52	4.97	5.46	6.01

Table 66: Resealing Fire Hose Taps

$Jan 07	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
First Tap	126.00	126.00	154.59	189.66	208.63	229.49	252.44
Additional Taps	3.00	3.00	3.68	4.52	4.97	5.46	6.01

7.2.2 WASTE WATER

Charges set by resolution of Gippsland Water Board apply for the Wastewater Districts of Boolarra, Churchill, Drouin, Glengarry, Heyfield, Maffra, Mirboo North, Moe, Morwell, Neerim South, Newborough, Rawson, Rosedale, Sale, Seaspray, Stratford, Toongabbie, Trafalgar, Traralgon, Warragul, Willow Grove, Wurruk, Yallourn North, Yarragon and Yinnar.

Charges set by resolution of Gippsland Water's Board will also apply to Loch Sport, Coongulla and Glenmaggie once these areas are declared waste water districts.

7.2.2.1 Wastewater Service Availability

A Wastewater Service Availability Charge applies to all properties in all Wastewater Districts where the wastewater main passes through or is adjacent to a property, or is capable of providing a service to the property.

The wastewater service availability charge is a contribution towards the cost of providing the wastewater service to the property. It applies to both developed residential properties and vacant land

where wastewater services have been constructed and are capable of servicing the property. Non-connected properties pay the minimum availability charge.

Multi Tenement Properties

For multi tenement properties such as flats, units, town houses, shops and shopping arcades etc, connected to the Wastewater Service, a Wastewater Service Availability Charge applies to each separate occupancy on that property, whether the property is occupied or vacant.

Table 67: Wastewater Service Availability Charge (per annum)

$Jan 07	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Connected Property	348.43	383.62	470.66	577.45	635.20	698.72	768.59
Non Connected Property	174.21	191.81	235.32	288.72	317.59	349.35	384.28

7.2.2.2 Wastewater Volumetric Charge

A Wastewater Volumetric Charge applies to non residential properties which use in excess of 100 kilolitres of water in any four monthly period, calculated and levied on the following basis:

A = water usage above 100 kilolitres in any four monthly period.
B = Wastewater Volumetric Charge per kilolitre
C = a percentage figure of 95%, 75%, 50% or 25%, based upon the property type (as detailed below).
D = the Wastewater Volumetric Charge to be paid.

The Volumetric Charge for Wastewater shall be calculated as D = A x B x C. The charge is set according to the type of Development/Business conducted on the property.

Property types designated at 95% Wastewater Volumetric Charge

Bank, Cinema, Conveniences, Hall, Hotel, Laundromat, Library, Medical (Doctors) Rooms, Motor and Engineering Works, Museum, Nursing Home, Office, Panel Beater, Post Office, Radio Station, Restaurant, Sale Yards, Supermarket, Workshop, Car/Truck Wash, Aged Care Facilities and Undefined.

Property types designated at 75% Wastewater

Abattoir, Brewery, Licensed Club, Dairy, Depot, Factory, Funeral Parlour, Guest House, Hospital, Infant Welfare Centre, Motel, Service Station, Police Station, Pre-School, Prison, Railway Station, School, Licensed Sporting Club, Childcare Facilities and Undefined.

Property types designated at 50% Wastewater Volumetric Charge

Aerodrome, Caravan Park, Swimming Pool, Recreation Facilities, Timber Yard and Undefined.

Property types designated at 25% Wastewater Volumetric Charge

Bakery, Butcher Shop, Bowls Club, Golf Course, Winery, Recreation Reserve and Undefined.

Table 68: Wastewater Volumetric Charge

$Jan 07	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Volumetric Charge (per Kl)	1.6601	1.8278	2.2425	2.7513	3.0264	3.3291	3.6620

Wastewater Volumetric Charge Review

Gippsland Water is currently undertaking a review of the wastewater volumetric charge, in particular to add further clarity in relation to the types of non residential properties within each of the designated categories. This review will allow Gippsland Water to improve consistency in the application of the wastewater volumetric charge, and will also ensure that new and developing enterprises are included, and properly described in the above categories.

7.2.3 MAJOR CUSTOMER REVENUE

Major customers by the nature of their size, and the significant level of the volumes of water used, and volumes of waste disposed, have long term contracts in place with Gippsland Water. These contracts stipulate prices at which water is sold, and waste disposed. In some instances, prices are linked directly to the non residential tariffs for water and waste water. In other instances, mechanisms within the contract allow for annual increases to the cost of services provided.

In determining the revenue requirement for this Water Plan, a significant review of major customer contracts has been undertaken, to ensure that major customer revenues are accounted for correctly.

7.2.4 RECYCLED WATER

The only recycled water supply system presently under construction is an outworking of the Gippsland Water Factory. Once commissioned, the total recycled water output from this facility will be provided under contract to a current major customer. Rates for the supply of recycled water are set out in the contract, and are subject to annual increases to the cost of services provided.

In July 2005 the Victorian Government through the Department of Sustainability and Environment (DSE) established the Victorian Water Trust to deliver the Country Towns Water Supply and Sewerage Program that aims to improve water and sewerage services to small towns in regional Victoria. In particular, the objectives of the program were to improve the quality of water and sewerage services in country towns currently experiencing environmental and public health impacts. The town of Loch Sport was identified as a priority one town under the program.

Loch Sport does not currently have either a reticulated water supply system, or reticulated sewerage scheme. After consideration of a range of innovative options for both water supply and also wastewater schemes, the current preferred option is for a reticulated sewerage scheme, combined with a wastewater treatment plant and reticulated reclaimed (non-potable) water for the town.

This option will provide a solution to the environmental and health issue in the town being caused by the current septic tank system, and also provide an alternative and sustainable supply of non-potable water to supplement the current potable water supply system (rainwater tanks) to customers. A business case is currently being developed for consideration by the Gippsland Water Board.

The provision of services for Loch Sport is listed as a key capital project (refer section 5.3.2), and is projected to be completed at the end of this Water Plan period. As such, Gippsland Water has

determined that there will not be a requirement to create tariffs for the provision of non potable recycled water to Loch Sport within the regulatory period.

7.2.5 TRADE WASTE

7.2.5.1 Existing Trade Waste Customers

All customers discharging trade waste to sewer must have:

- Applied in writing to Gippsland Water for consent to discharge trade waste to Sewer; and
- Entered into an agreement with Gippsland Water that details the terms and conditions for discharge to which the customer must comply.

Any existing customer discharging trade waste who does not have an agreement with Gippsland Water to discharge trade waste to sewer must apply for an agreement immediately. Failure to do so may result in Gippsland Water requiring discharge to cease. Penalties specified in the Trade Waste By-Law No. 14 may also be applied.

Waste Acceptance Quality Limits

Gippsland Water will normally accept trade waste when it meets the Category 1 & 2 Trade Waste Quality Limits

Gippsland Water may, at its absolute discretion, alter these limits from time to time.

Definition of Trade Waste Categories

Category 1
Trade Waste discharge of less than 1000 kilolitres per year which must also conform to the Category 1 & 2 Trade Waste Quality Limits.

Category 2
Trade Waste discharge of greater than 1000 kilolitres per year which must also conform to the Category 1 & 2 Trade Waste Quality Limits.

Category 3
Category 3 Trade Waste is any Trade Waste discharge which does not conform to the Category 1 & 2 Trade Waste Quality Limits. Gippsland Water at its absolute discretion may or may not accept Category 3 Trade Waste. Where Gippsland Water agrees to accept a Category 3 Trade Waste, special conditions, requirements and tariffs specific to that particular waste would normally apply.

Gippsland Water may require a customer to carry out pre-treatment of the discharge to meet specific quality limits.

Discharge Control

Category 1
Gippsland Water will provide customers with 'Guidelines for Size of Pre-Treatment Apparatus' to assist them in determining the size and type of pre-treatment apparatus that is appropriate for their trade waste discharge.

A short form agreement will be issued which sets out basic discharge requirements.

If the fixtures generating trade waste require alteration, the customer shall submit a proposal and obtain approval before any alteration occurs, and certainly before discharge, is commenced.

Gippsland Water will audit customers from time to time to determine whether discharge equipment is being operated and maintained adequately, and to obtain up to date predictions of flow and quality requirements.

Category 2
Gippsland Water adopts a similar approach here as with category 1 discharge, however an agreement is specifically prepared for each customer and contains greater emphasis on ensuring that quantity and quality is adequately controlled.

Ongoing and regular monitoring of discharge flow and quality may be required.

Category 3
For a discharge that exceeds the Category 1 & 2 Trade Waste Quality Limits, a greater emphasis is placed on continuous quality monitoring and control, with limits to be determined by Gippsland Water at its absolute discretion.

Self Monitoring Emphasis

The primary responsibility for ensuring that the conditions of any agreement are met rests with the customer. Customers are expected to undertake appropriate regular self sampling and testing of trade waste to ensure compliance with trade waste quality limits for their respective categorisation.

Quality monitoring required by the Agreement must be carried out by a National Association of Testing Authorities (NATA) approved laboratory, unless an alternative is approved by Gippsland Water.

Gippsland Water may carry out independent monitoring to check compliance, if required, at the customers expense.

Table 69: Annual Charge (per annum)

$Jan 07	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Annual Charge	148.24	148.24	181.87	223.14	245.46	270.00	297.00

7.2.5.2 Prospective Trade Waste Customers

Any customer proposing to discharge trade waste to sewer, must complete an application and submit it to Gippsland Water for consideration.

An application shall unless Gippsland Water determines otherwise comply with the Gippsland Water Trade Waste Policy and be accompanied by the relevant fee.

For prospective customers, an estimate of the expected quantity and quality of trade waste will need to be provided to Gippsland Water to allow correct trade waste categorisation

Table 70: Application Fee (per application)

$Jan 07	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Annual Charge	57.96	57.96	71.11	87.25	95.97	105.57	116.12

7.2.6 NEW CUSTOMER CONTRIBUTIONS

When land is subdivided, or an existing property is redeveloped, the demand on the water and wastewater reticulation systems may increase. Storage capacities and treatment works may have to be enlarged to meet this demand. New customer contributions for Headworks (water) and Outfall/Disposal (wastewater) recover part of the cost of constructing permanent works such as storages, pumping stations, treatment plants, water distribution mains and outfall sewers.

New Customer Contributions – existing arrangements

Gippsland Water's current new customer contributions payable for the provision of water supply and wastewater services are determined by whether existing water and sewer assets exist (Infill Development), or whether new water and sewer assets are to be provided as part of a new development.

New customer contributions for water supply and wastewater services apply to each additional lot created by a subdivision, including body corporate subdivision, multi-unit and dual occupancy developments that are separately titled or are, or can be individually metered.

A credit of one development charge is applicable for any existing properties that are connected to water and or wastewater services and form part of the subdivision or development.

New Customer Contributions – proposed new arrangements

The Victorian Water Industry believes there are opportunities to improve on the current arrangements, particularly in relation to incentives for Water Sensitive Urban Design developments. Currently the consequences are that larger more water-intensive developments face the same charge as higher-density more water efficient developments. Therefore, to be more consistent with the WIRO principle of signalling and providing appropriate incentives for sustainable water use, the Victorian Water Industry suggests that new customer contribution's should send a stronger message to encourage and reward more water sensitive developments.

Current arrangements do not recognise the effect of development decisions on existing regional water customers, where development is designed to attract more people to regional centres resulting in large water intensive developments. Incremental developments will, collectively and over time, generate the need for additional investment in upstream capacity. The WIRO requires tariffs to be designed having regard to the interests of all customers, consequently the new customer contribution level should be considered in terms of what is an appropriate balance to strike between full upfront funding or funding over time.

The Victorian Water Industry's proposal allows for an upfront contribution thereby reducing the financial impact on the total customer base. This reflects an equitable sharing of funding for growth assets between the two different groups of customers. These charges, coupled with incentives for Water Sensitive Urban Design, will discourage inefficient development decisions; are in the interests of the broader customer base (particularly smaller regional communities); are consistent with the provisions of the *Water Act 1989* and can be structured in a way that avoids undue complexity.

Proposal

A standard schedule of charges, detailed below, scaled according to the water-sensitivity of particular developments and the demand for future infrastructure.

Many of the features of Water Sensitive Urban Design are implemented by individual property owners in the building construction phase of developments, i.e. water tanks and grey water recycling systems. At the planning permit stage for lot development there can be little guarantee with regard to the full take up of these features, however lot size and location are known, which also impact on water consumption, and the amount of infrastructure required for individual lots are known. For example; large rural residential lots generally use significantly more water than unit developments, and the amount of infrastructure required per lot is much higher. The Water Industry position, as detailed, incorporates consideration of the impact of future water resource demand, particularly in relation to lot size when assessing New Customer Contributions (NCC's). Note that all dollar values detailed below are as at July 2008, while Table 71 details the charges in January 2007 dollars.

1 Where a NCC is to be applied, a charge of $550.00 per lot per new service for water, sewerage and dual pipe water (total for the three services is $1,650.00 per lot) for developments which are designed in a manner that will have minimal impact on future water resource demands, and can be catered for without additional investment within the medium-term distribution capacity.

These developments are typically:

- A lot with an area no greater than 450 square metres per lot with a small demand on the system.
- Unit developments, even where there are not separate titles – i.e. $550.00 per unit.
- Apartment lots with separate titles – i.e. $550.00 per apartment.
- 2-lot sub-divisions with each lot not exceeding 450sqm.
- The charge is for each new lot created of a sub-division (i.e. a two lot subdivision only creates one new lot).

2 A charge of $1,100.00 per lot per service for water and sewerage and dual pipe (total $3,300.00 per lot) applies to urban developments which will require further investment in infrastructure to serve these developments.

These developments are typically:

- Traditional greenfield urban developments with lot sizes between 450sqm and 1350sqm.

3 A charge of $2,200.00 per lot per service for water, sewerage and dual pipe (total $6,600.00 per lot) for developments designed in such a way that properties will create demand for water resources over and above high-density developments and will require further investment in infrastructure to service these developments.

These developments are typically:

- Greenfield developments with lots sizes exceeding 1,350sqm e.g. lots with potentially large outside water-use, no recycled water and which will influence near term investment in infrastructure decisions.

Table 71: New Customer Contributions (per lot)

$Jan 07	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Water - Infill Developments	430.00	430.00	n/a	n/a	n/a	n/a	n/a
Waste - Infill Developments	430.00	430.00	n/a	n/a	n/a	n/a	n/a
Water - New Developments	514.50	514.50	n/a	n/a	n/a	n/a	n/a
Waste - New Developments	514.50	514.50	n/a	n/a	n/a	n/a	n/a
Category (1) - Water	n/a	n/a	523.80	523.80	523.80	523.80	523.80
Category (1) - Waste	n/a	n/a	523.80	523.80	523.80	523.80	523.80
Category (1) - Dual Pipe	n/a	n/a	523.80	523.80	523.80	523.80	523.80
Category (2) - Water	n/a	n/a	1,047.60	1,047.60	1,047.60	1,047.60	1,047.60
Category (2) - Waste	n/a	n/a	1,047.60	1,047.60	1,047.60	1,047.60	1,047.60
Category (2) - Dual Pipe	n/a	n/a	1,047.60	1,047.60	1,047.60	1,047.60	1,047.60
Category (3) - Water	n/a	n/a	2,095.30	2,095.30	2,095.30	2,095.30	2,095.30
Category (3) - Waste	n/a	n/a	2,095.30	2,095.30	2,095.30	2,095.30	2,095.30
Category (3) - Dual Pipe	n/a	n/a	2,095.30	2,095.30	2,095.30	2,095.30	2,095.30

Values in Table 71 have been discounted by proposed CPI to display them as January 2007 dollars. Dollars in discussion above are at 1 July 2008.

Out of Sequence Developments

When a development is out of sequence with Gippsland Water's planned development for the provision of shared infrastructure, Gippsland Water can seek approval from the Essential Services Commission for a charge in excess of the approved scheduled charge. This charge will represent the financing costs associated with bringing forward the provision of the shared infrastructure assets.

Financing costs are determined with reference to the time difference between when a development was planned to be connected and the time it is connected. It is calculated by multiplying the capital costs of the shared infrastructure by the time value of money, which is equal to the pre-tax WACC as determined by the ESC. For 2006/07 the WACC is 5.2% (final WACC will be determined by ESC refer to Section 5.4.3).

Contributions from new wastewater developments serviced by low pressure pumps.

A wastewater service utilising low pressure pumps is currently being developed for the township of Seaspray, and may in due course be utilised for other new wastewater services in townships like Loch Sport, Coongulla and Glenmaggie.

In determining fees for this type of development, Gippsland Water in not in a position to determine pump pit location at property development stage, but the developer is responsible for provision of wastewater services to the property. To address this situation, the developer will pay an upfront contribution towards installation of low pressure pump pit at a location within the property. Actual costs will only be determined when the location of building or residence is determined at some future date. Gippsland Water will establish a system to record contributions made by the developer, and will refund the property owner any surplus, or invoice the property owner for any deficit, as individual circumstances dictate.

Contributions from new wastewater developments – inside property boundary

For planning purposes included in the capital estimates for the provision of sewerage services for the townships of Coongulla, Glenmaggie and Loch Sport are costs associated with works inside the customers' property boundary which will need to be borne directly by the customers. The recovery of

these costs will occur at the completion of these projects. This Plan includes recovery of $1.23m from property owners in Glenmaggie in 2010/11 for works undertaken inside the customers' property boundary, and an additional recovery of $15.87m from property owners in Coongulla ($2.86m) and Loch Sport ($13.01m) in 2012/13.

Coongulla, Glenmaggie and Loch Sport Sewerage Scheme

The provision of wastewater services to townships of Coongulla, Glenmaggie and Loch Sport have been announced by the Minister for Water. Clause 19.4 of our Statement of Obligations states:

"If a program approved by the Minister referred to in sub-clause 19.3 includes a contribution from the owner of a property for the provision of sewerage services, the Authority cannot recover more than the amount of that contribution from the owner."

Accordingly this Plan assumes that customers in these townships will contribute $800 per property at the completion of these projects as shown in Table 72, although customers will still be provided with the opportunity to contribute $80 per annum for 20 years as announced.

Gippsland Water anticipates that Glenmaggie will be connected to wastewater services in 2011/12 which will be additional 77 properties. The connection of new properties in the townships of Coongulla and Loch Sport will occur in 2012/13.

Table 72: Contributions from existing property owners

Once-off contribution	800.00
Annual contribution for 20 years	80.00

7.2.7 MISCELLANEOUS SERVICES

In addition to providing 'core' water and sewerage services, Gippsland Water provides a wide range of other services to customers. This includes undertaking new connections, providing special meter readings, conducting meter tests, providing property information statements and reviewing applications to build over easements. Gippsland Water also imposes a range of application and 'penalty' fees (such
as where customers' cheques are dishonoured).

The Essential Services Commission (ESC) has stated that there may be opportunities to rationalise the number of miscellaneous services being offered, either by offering some miscellaneous services as part of the main water or sewerage service, or combining certain miscellaneous services at the same price. One of the benefits of rationalisation proposed by the ESC is that it would provide for relatively simpler administration.

After consideration of the submissions and responses by the water businesses on this issue, the ESC proposed that water businesses identify within their Water Plans a core set of miscellaneous services that will be subject to the annual price approval process and subsequently included in the tariff schedule. The ESC expected that there would be some degree of commonality in identified services across the businesses.

Gippsland Water agrees that there is scope to identify a standard set of miscellaneous services, as long as the flexibility remains to propose prices that reflect Gippsland Water's particular cost circumstances.

Gippsland Water is supportive of the VicWater proposal developed following discussions with the ESC, in which a draft schedule of some of the main miscellaneous charges for water businesses has been developed. The list of standard miscellaneous charges proposed is as follows:

Schedule of Miscellaneous Charges

- Disconnection of water and sewer services;
- Reconnections of water and sewer services;
- Restriction of supply;
- Removal of restriction device;
- Tappings / connection fee;
- Meter fees (new and replacement of lost/damaged meters);
- Meter reading fee;
- Meter testing;
- Plan showing sewer location within a property;
- Water quality tests;
- Sanitary drainage plan;
- Information statement;
- Property Service Plan;
- Easement Creation fee;
- Dishonoured payment;
- Fire Service Charges;
- Freedom of Information Request;
- Supply by Agreement; and
- Septic disposal charge.

Gippsland Water proposes to work towards completion of an agreed schedule of miscellaneous charges for inclusion in the final Water Plan, to be completed in early October 2007.

For the purposes of developing this Water Plan, Gippsland Water has utilised the standard schedule of charges which are currently applied, and have been approved for use by the ESC for the period to June 2008. In developing estimates of miscellaneous revenue, Gippsland Water has not sought to adjust rates for any of the miscellaneous services charges from levels approved by the ESC for the 2007/08 financial year.

7.2.8 PRICING PRINCIPLES

7.2.8.1 Recycled Water Pricing

Recycled water prices will be set so as to:

- maximise revenue earned from recycled water services having regard to the price of any alternative substitutes and customers willingness to pay;
- cover the full cost of providing the service; and
- include a variable component.

7.2.8.2 Where Scheduled Prices Do Not Apply

Where the prices set out in any agreed schedule of miscellaneous charges do not apply because the nature of the service provided to a particular customer (including, in the case of trade waste customers, the volume or load of waste treated) is unique, prices will be set as follows:

- variable prices (including, in the case of trade waste customers, load-based charges) should reflect the LRMC of providing services (including, in the case of trade waste customers, trade waste transfer, treatment and disposal);
- the total revenue received from each customer should be greater than the cost that would be avoided from ceasing to serve that customer, and (subject to meeting avoidable cost) less than the stand alone cost of providing the service to the customer in the most efficient manner;
- the methodology used to allocate common and fixed costs to that customer should be clearly articulated and be consistent with any guidance provided by the Commission;
- prices should reflect reasonable assumptions regarding the customer's demand for services, (including, in the case of trade waste customers, the volume and strength of trade waste anticipated to be produced by that customer);
- depreciation rates and rates of return used to determine prices should be consistent with those adopted by the Commission for the purposes of making this Determination;
- customers should be provided with full details of the manner in which prices have been calculated and any contractual agreements with customers should indicate that the prices to apply from 1 July 2008 are subject to any Determination made by the Commission; and
- where applying these principles results in significant changes to prices or tariff structures, arrangements for phasing in the changes may be considered and any transitional arrangements should be clearly articulated.

7.2.8.3 Miscellaneous Services Where Scheduled Prices Do Not Apply

Where the prices set out in any agreed schedule of miscellaneous charges do not apply for miscellaneous services including Land Development Fees, Property Connection Fees, Rechargeable Works and Miscellaneous Services prices will be set as follows:

- reflect the direct costs of service provision (including materials and/or costs associated with contractors);
- reflect the internal costs incurred by Gippsland Water such as labour, transport and general overheads;
- for new miscellaneous services, exclude costs previously accounted for in approved prices; and
- are transparent.

7.3 FORM OF PRICE CONTROL

The ESC typically adopts two approaches in approving prices:

- Annual approval of prices where businesses propose the prices to apply at the start of each year and these are approved by the ESC; and
- Pricing principles where prices are set by the business in accordance with guidelines provided by the ESC.

The ESC has a number of options for approving prices annually, namely the ESC can approve a price or revenue cap where a specified price path or level of revenue is fixed for the water plan period.

The form of price control provides incentives for businesses when considering how to implement its pricing strategy. The types of price control include:

- individual price caps;
- tariff basket;
- revenue yield;
- revenue cap; and
- combination of the above.

The ESC's preferred approach is that both the tariff basket and individual price caps best meet the requirements of the WIRO. These forms of price control provide greater certainty for customers about future prices compared to revenue cap approaches which may result in price volatility. A tariff basket or individual price caps are relatively simple administratively and provide flexibility for businesses to adapt their structures.

Accordingly Gippsland Water proposes to adopt an individual price cap approach to price control for this regulatory period.

7.4 ADJUSTING PRICES

7.4.1 CHANGES IN LEGISLATIVE OBLIGATIONS

Gippsland Water's current price determination allows Gippsland Water to recover material increases in expenditure incurred during the first regulatory period (2005/06 – 2007/08) due to changes in legislative obligations in the regulatory period. Changes in legislative obligations relates to:

- Changes to all primary Acts and legislative instruments, including regulations;
- Changes in taxes (or fees or similar charges) excluding income tax, penalties and interest on taxes, stamp duty, financial institutions duty or similar taxes and levies;
- Change to EPA licence requirements; and
- Changes to the Statement of Obligations.

The ESC also allows water businesses, including Gippsland Water to take into account any difference between the assumed licence fees or contributions payable to the various regulators and the actual licence fee or contribution paid.

In applying to the ESC to recover material increases in expenditure, Gippsland Water needs to demonstrate that:

- The change in legislative obligations was unforeseen and not already reflected in expenditure forecasts during the previous price review;
- The business was not already meeting any required higher standards;
- The business had taken appropriate steps to plan for or manage the impact of the change in legislative obligation where relevant;
- The expenditure incurred to deal with the change in legislative obligations was efficient; and
- The impact on costs is greater than 5 per cent of Gippsland Water's total revenue.

In Gippsland Water's response of 12 February 2007 to the ESC's 2008 Water Price Review Consultation – Framework and Approach, December, Gippsland Water proposed that in this regulatory period that:

- Materiality threshold should be linked to the annual operating expenditure that relates to changes in legislative obligations, not total revenue;
- The materiality threshold needs to clearly indicate it is a cumulative amount which can relate to a multiple events; and
- The ESC should extended the price adjustment for variations in licence fees payable to regulators to include the mandatory audit costs directly associated with each of the regulators. Whilst the auditors are engaged directly by each of the businesses, they effectively work for the regulator because the water business has no control over the scope and the auditor needs to be approved by the Commission. If the regulators engaged the auditor directly, which Gippsland Water believes they should, these costs would be treated as a pass through.

Changes in legislative obligations 2005/06 – 2007/08

In our submission to the ESC of our 2005/06 Regulatory Accounts Gippsland Water identified three areas of expenditure that represented changes from our original Water Plan submission, being:

- On 21 September 2005 DHS requested under Section 5 (1) of the Health (Fluoridation) Act 1973 that Gippsland Water fluoridates the drinking water supply systems serving the towns of Warragul, Moe, Morwell, Traralgon and Sale and any other towns supplied by these systems. DHS have funded the capital works associated with upgrading water treatment plants to enable the fluoridation of drinking water supplies, however Gippsland Water is responsible for the ongoing operational costs associated with this direction. Gippsland Water estimates that fluoridation of these drinking water systems has resulted in an additional $0.200m per annum in operational costs;

- Gippsland Water's first Water Plan included costs associated with undertaking various feasibility studies as part of its capital works program. On 16 December 2004 Gippsland Water brought to the attention of the ESC that as a consequence of adopting the International Accounting Standards costs pertaining to feasibility studies which had previously been capitalised by Gippsland Water would under IFRS now be treated as operating expenditure. In 2005/06 Gippsland Water incurred costs of $0.387m associated with feasibility studies; and

- On 18 April 2006, Gippsland Water advised the ESC that:

  "In January 2006 a fire, believed to be deliberately lit, was started in the Moondarra Reservoir catchment. The fire ultimately burned up to 15,500 ha. of the Moondarra catchment.

  Gippsland Water has incurred significant property loss, including mature pine plantations and damage to roads, fences, signposts, water monitoring systems and some minor damage to the major pipeline servicing major industry and the townships of Morwell, Traralgon and Tyers. The total estimated damage and cost to Gippsland Water as a result of the fires is expected to be up to $1m in 2005/06 (actual cost in 2005/06 was $0.6m) and may exceed $2m overall.

  The extent of the fire within the catchment now presents significant potential for future water quality and water yield impacts to the business.

At this stage Gippsland Water is endeavouring to manage this unfortunate event, both operationally and financially, within the regulatory period however if this can not be achieved we may need to seek assistance from the Commission."

Further to the submission of our Regulatory Accounts in October 2006, during December 2006/January 2007 bush fires ravaged the Great Dividing Range, recent storm events across this region have resulted in significant water quality issues for some of Gippsland Water's towns and will result in significant additional operational expenditure.

Gippsland Water's 2005 water price determination also provides for a price adjustment for the difference between forecast and actual cost of licence fees from the various regulators. The licence fee levied by the Victorian Government to contribute to the costs of the ESC has been significantly in excess of the estimates provided by the ESC during the first price review.

Table 73: ESC Licence Fees

	Forecast	Actual	Variance
Invoiced 2003-04 & paid in 2005-06	-	41,500	(41,500)
Invoiced 2004-05 & paid in 2005-06	60,000	117,700	(57,700)
Invoiced 2005-06 & paid in 2006-07	30,000	80,400	(50,400)
Total	90,000	239,600	(149,600)

As outlined in section 3.4, Gippsland Water does not intend to seek a price adjustment in the 2008 water price review for the additional expenditure incurred by the above events. Gippsland Water is very conscious that its customers are facing a significant price increase due to costs directly related to the regulatory period without the additional burden of additional costs incurred during the first regulatory period.

7.4.2 UNFORESEEN EVENTS

Gippsland Water's current price determination provides the ESC with the flexibility to amend Gippsland Water's price determination within the regulatory period if it considered it desirable or necessary to avoid an unintended consequence of the determination.

The inclusion of this clause within the determination creates the incentive for Gippsland Water to endeavour to minimise the impact of any major event, however ensures Gippsland Water does not become financially un-viable as a result of a major event beyond our control. The intent of this clause provides the ESC with flexibility to address the unintended consequences of a major event such as bushfire, acts of terrorism, dam failure, etc.

Gippsland Water believes this clause must remain in the ESC's next price determination.

In addition, Gippsland Water believes the ESC should provide for a re-opening of the determination triggered by approval of major capital works identified within this Water Plan but not factored into the revenue requirement. Discussion on this subject is dealt with in section 5.4, in relation to dealing with uncertainty.

8.0 NON PRESCRIBED SERVICES

8.1 CLASSIFICATION OF SERVICES AS NON PRESCRIBED

8.1.1 RESOURCE RECOVERY FACILITY

In accordance with the Water Act 1989, Gippsland Water operates a prescribed (industrial) waste treatment and storage facility at its Dutson Downs property. The facility is approved by the EPA for this purpose due mainly to its large buffer distances, its thick clay overlays and its well developed management practices.

Historically, the 40 ha site was established in order to dispose of industrial wastes utilising landfill technology. Today, and in response to Victorian Government policy aimed at improved management of industrial waste, the Gippsland Water Board has approved a substantial redevelopment and modernisation program to transform the site into a regional Resource Recycling Facility (RRF).

The redevelopment and modernisation program is comprised of two specific investments to enable the recycling of soil and organic wastes as well as the treatment and recycling of a range of liquid wastes.

Solid waste recycling

The Soil and Organic Recycling Facility (SORF) has been designed to treat and recycle organic material using advanced in-vessel composting technology. Based on proven methods, the SORF will be ready for commissioning, and proof-of-process demonstration by September 2007. The proof-of-process will confirm the relative mixtures of waste materials deemed necessary to ensure that the end-product compost is fully compliant to the Australian Standard for a market suitable soil additive.

Liquid waste recycling

The Liquids Processing Facility (LPF) has been designed to treat and recycle organic liquids using in-vessel separation technology (tank farm). This investment will facilitate the closure of the current bioremediation pond which does not allow for any recycling. The liquid organic wastes, treated in the LPF, will allow the extraction of products of value prior to the dewatering and composting process.

8.1.2 AGRIBUSINESS

The Gippsland Water Agribusiness is operated across ten broad-acre land assets (10,000ha) owned or vested in the Authority. These lands support a large mixed farming enterprise, encompassing livestock, plantation, grain and fodder. These form integrated components of the land management business, with each enterprise providing support services to Gippsland Water in the provision of sustainable water and wastewater services to the region.

The Agribusiness has experienced considerable growth in recent years and is well placed to profit from forthcoming capital investment in Gippsland Water infrastructure, notably the SORF at Dutson Downs and the Gippsland Water Factory project. These projects will deliver a powerful combination of agronomic (compost and irrigation) benefits, which in turn promises to facilitate meaningful expansion of Agribusiness within the Gippsland region.

This Plan continues to provide the foundation upon which the longer term Agribusiness model will be built, by including expenditure items focused on:

- continued realignment of breeding objectives and husbandry practices to provide greater access to target value end feeder steer and supermarket segments of the Australian cattle industry;
- further expansion of the winter cropping enterprise at Dutson Downs to facilitate regional development of market opportunities in dairy feed grains; and
- refinement of the Agribusiness Work Systems Manual (QA System) to ensure continued compatibility of Agribusiness strategy with regulation and Gippsland Water's corporate objectives.

These initiatives seek to ensure that Gippsland Water's Agribusiness continues to provide benefits consistent with provision of sustainable water and wastewater services, including ongoing delivery of positive financial return to the Authority.

8.2 EXPENDITURE AND REVENUE ASSOCIATED WITH NON PRESCRIBED SERVICES

Non Prescribed Services Summary	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Revenue	3.02	3.25	3.76	4.32	5.11	4.94	5.27	5.21
	-	-	-	-	-	-	-	-
Operating expenditure	2.38	3.24	3.13	3.11	3.09	3.12	3.31	3.24
	-	-	-	-	-	-	-	-
Gross capital expenditure	1.35	5.96	1.99	0.90	0.59	1.80	0.38	0.34
Government contributions	-	-	-	-	-	-	-	-
Customer contributions	-	-	-	-	-	-	-	-
Net capital expenditure on new obligations	1.35	5.96	1.99	0.90	0.59	1.80	0.38	0.34
	-	-	-	-	-	-	-	-
Gifted Assets	-	-	-	-	-	-	-	-
Proceeds from disposals	0.02	0.08	0.07	-	0.02	0.04	0.05	0.06

Resource Recovery Facility	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Revenue	1.95	2.23	2.68	3.21	3.93	3.59	3.81	3.65
	-	-	-	-	-	-	-	-
Operating expenditure	1.16	1.79	1.92	1.86	1.91	1.86	2.02	1.93
	-	-	-	-	-	-	-	-
Gross capital expenditure	0.90	5.79	1.61	0.77	0.36	1.21	0.19	0.05
Government contributions	-	-	-	-	-	-	-	-
Customer contributions	-	-	-	-	-	-	-	-
Net capital expenditure	0.90	5.79	1.61	0.77	0.36	1.21	0.19	0.05
	-	-	-	-	-	-	-	-
Gifted Assets	-	-	-	-	-	-	-	-
Proceeds from disposals	-	0.04	0.05	-	0.02	0.02	0.03	0.02

Agribusiness	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Revenue	1.07	1.02	1.08	1.11	1.18	1.35	1.46	1.56
	-	-	-	-	-	-	-	-
Operating expenditure	1.22	1.45	1.21	1.25	1.18	1.26	1.29	1.32
	-	-	-	-	-	-	-	-
Gross capital expenditure	0.46	0.17	0.38	0.13	0.23	0.59	0.19	0.29
Government contributions	-	-	-	-	-	-	-	-
Customer contributions	-	-	-	-	-	-	-	-
Net capital expenditure	0.46	0.17	0.38	0.13	0.23	0.59	0.19	0.29
	-	-	-	-	-	-	-	-
Gifted Assets	-	-	-	-	-	-	-	-
Proceeds from disposals	0.02	0.04	0.02	-	-	0.02	0.03	0.03

How shared costs have been allocated between prescribed and non-prescribed services

Gippsland Water has undertaken a review into allocations of corporate costs across the Resource Recovery Facility and the Agribusiness streams. The review was conducted on the basis that each of the business streams was viewed as an independent stand alone business. Additional costs associated with such an arrangement were determined using various assumptions and resources. The results of these investigations were then compared to the current allocations to prove their validity.

The results of these investigations are as follows:

Resource Recovery Facility (RRF)

The RRF business stream previously attracted an allocation of 1% of corporate costs. Based on an average of historical data this equates to approximately $200K per annum. Based on first principles the additional administrative costs associated with this business unit operating as a stand alone business equated to $170K per annum. There is a variance between the proposed allocation and investigation exercise of approx $30K. This variance highlights that the current allocation %/method is too high and should be reviewed.

Agribusiness

The Agribusiness stream previously attracted an allocation of 1% of corporate costs. Based on an average of historical data this equates to approximately $200K per annum. Based on first principles the additional administrative costs associated with this business unit operating as a stand alone business equated to $130K per annum. There is a variance between the proposed allocation and investigation exercise of approx $70K. This variance highlights that the current allocation %/method is too high and should be reviewed.

Gippsland Water has determined that it will adopt the allocation of the fixed amounts to each of the non prescribed business streams, and will conduct an annual review to ensure that fixed amount continue to reflect the cost of overhead activity performed for these business streams.

APPENDIX

APPENDIX 1: ABBREVIATIONS

ANCOLD	Australian National Committee on Large Dams Inc
AP	Australian Paper
BWE	Bulk Water Entitlement
CCTV	Closed Circuit Television
CMA	Catchment Management Authorities
CPI	Consumer Price Index
CRSWS	Central Region Sustainable Water Strategy
CTW	Commercial Trade Waste
DHS	Department of Human Services
DSE	Department of Sustainability & Environment
EPA	Environment Protection Agency
ESC	Essential Services Commission
EWOV	Energy and Water Ombudsman of Victoria
GINRMF	Gippsland Integrated Natural Resource Management Forum
GIS	Graphical Information System
GRWMP	Gippsland Regional Water Monitoring Partnership
GSL	Guaranteed Service Level
GWF	Gippsland Water Factory
KPI	Key Performance Indicator
LPF	Liquids Processing Facility
LRMC	Long Run Marginal Cost
ML	Megalitre
NCC	New Customer Contributions
NATA	National Association of Testing Authorities
NPV	Net Present Value
NTER	National Tax Equivalent Regime
PCG	Project Control Group
QA	Quality Assurance
RAB	Regulatory Asset Base
RAV	Regulatory Asset Value
ROS	Regional Outfall Sewer
RRF	Resource Recovery Facility
RUWA	Regional Urban Water Authorities
SDWA	Safe Drinking Water Act 2003
SEPP (WoV) 2003	State Environmental Protection Policy Waters of Victoria
SLA	Service Level Agreement
SoO	Statement of Obligations
SORF	Soils and Organics Recycling Facility
SPS	Sewer Pump Station
SRW	Southern Rural Water
SWOP	Saline Waste Outfall Pipeline
TOC	Target Outturn Cost
TBL	Triple Bottom Line
WaterMAPS	Mandatory Water Management Plan
WACC	Weighted Average Cost of Capital
WIRO	Water Industry Regulatory Order
WSDS	Water Supply Demand Strategy
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

APPENDIX 2: STATEMENT OF OBLIGATIONS – TARGETS AND OUTCOMES

Obligation: 10 – Customer and Community Engagement			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	None	During the course of this Water Plan period Gippsland Water will be developing enhanced processes and forums that will focus on involving and interacting with Gippsland Water's customers, community and stakeholders in the organisation's decision making and planning processes. A community engagement and consultation policy and strategy will be developed to create a framework to engage these key groups to capture their needs and expectations regarding service delivery. Formalised consultation and engagement has already been undertaken by Gippsland Water for processes including the development of this Water Plan and the Water Supply Demand Strategy. During the course of this Water Plan period Gippsland Water will be undertaking a comprehensive review of its customer and stakeholder committees to identify methods to maximise the function and benefits of these groups. Several models used by a range of water businesses and government agencies will be reviewed and considered along with Gippsland Water's requirements as part of the review. During the course of this Water Plan period Gippsland Water will be implementing an enhanced schools and community education program that will focus on water conservation, responsible water use and align with Statement of Obligations requirements for education. There is already a schools program in place that meets requirements. There has also been significant media and advertising activity initiated by Gippsland Water to develop community and stakeholder awareness of conservation and water supply issues.	This expenditure is currently incurred as part of the operating costs of the business, and forms part of the annual Public Affairs budget for Gippsland Water. No significant increases expected during the period of this Water Plan.

Outline any consultation undertaken.	

Obligation: 11 – Managing risks (1 of 2)			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	This obligation has been progressive over the past few years in relation to the Safe Drinking Water Act - Risk Management Plan Process, and will continue forward over the next couple of years with the enhancement of the Risk Management Plan process into Waste Water Treatment. Resource and expenditure obligations have become more obvious during the development of Water Plan programs. This risk management obligation has also impacted processes in other areas such as Facility Criticality, Security, and OH&S, where additional systems have been developed to identify and quantify risks and develop processes to efficiently manage these risks. Gippsland Water is required to have a Risk Management Plan in accordance with AS4360. This plan is currently being developed.	Implementation of Risk Management approach to Operations activities, has identified risks and gaps in current operations. As such additional tasks (both operational and maintenance) and monitoring requirements have been identified. During 2007, Gippsland Water's approach to risk management has been reviewed. The review aims to provide implementation of the desired consolidated business-wide comprehensive risk management framework. In order to achieve this, the project has focused on: • Linking with the Strategic Plan; • Translating existing information into the new risk management software (Methodware Enterprise Risk Assessor); • Removing duplication of risk management activities; • Clearly identifying who is responsible for risk management activities, including mitigation; • Meeting the needs of all stakeholders within the organisation; and	These additional tasks have increased resource and expenditure requirements, as identified in the revised Water Plan work programs. Current Water Plan budgets in relation to operational expenditure identify a spend of approximately $1.0m in the five year period, in areas such as Facility Criticality and Security. All initial expenditure associated with the risk management review has been captured in WP1.

		• Meeting the requirements, of the Australia / New Zealand Standard for Risk Management – AS/NZS4360:2004. Progressing risk management in 2008/09, Methodware will be fully integrated and all functions utilised to full potential.	
Outline any consultation undertaken.		Internal consultation with Operational Managers. External consultation with the Attorney Generals Dept, and other Water Authorities.	

Obligation: 11 – Managing Risks (2 of 2)			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	Establishment of Trade Waste Management Plan (EPA Publication 1069)	Trade Waste Management Plan, endorsed by EPA, with actions to minimise risk of trade waste contamination of reclaimed water, biosolids and external environment	Develop Trade Waste Management Plan, to the satisfaction of the EPA Implement identified actions to minimise risk of trade waste contamination of reclaimed water, biosolids and external environment
	Establishment of Biosolids Management Plan (EPA Publication 1069)	Biosolids Management Plan, endorsed by EPA, with actions to maximise beneficial reuse of stabilised biosolids	See Biosolids Management Plan, currently under development
	Establishment of Sewerage Management Plan (EPA Publication 1069)	External audit of Activity Management Plan by EPA-accredited auditor, and series of actions to address recommendations for improvement by auditor to meet EPA requirements for sewerage system management and performance.	
Outline any consultation undertaken.		External consultation with the Environmental Protection Authority.	

Obligation: 12 - Responding to Incidents and Emergencies			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	Gippsland Water must ensure it has a plan, system or process to manage increasing risks, including measures to deal with incidents, and potential security risks (including terrorism). Training and exercises.	Increased levels of security awareness training for staff. A higher level of preparedness to deal with incidents as they occur in the future.	In addition to the operational expenditure outlined in Obligation 11, current Water Plan budgets in relation to Capital expenditure identify a spend of $4.2m in the five year period.
Outline any consultation undertaken.		Internal consultation with Asset Managers. Security Vulnerability Risk Assessment Guidelines review of assets. External consultation with the Attorney Generals Dept, Suppliers and other Water Businesses.	

Obligation: 13 - Managing Assets			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	None	Activity Management Plans developed to such a degree that they deliver a robust plans on which to base operational and capital expenditure requirements in Water Plan processes. The Activity Management Plan development process was undertaken in conjunction with MWH Australia Pty Ltd. MWH is global leader in Water, Wastewater, Engineering, Environmental, Asset Management, Mining, Transportation, Energy and Technology Solutions, dedicated to providing sustainable and innovative solutions that meet the high demands of both our clients and modern society. \	Current Water Plan budgets in relation to operational expenditure include funding of this development as part of normal labour requirements planning, supported by external consultants where necessary.
Outline any consultation undertaken.		Internal consultation involving relevant stakeholders.	

Obligation: 14 - Dam Safety			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	All dam owners must develop and manage processes to review the safety of the dams in accordance with ANCOLD guidelines.	The ANCOLD guidelines are about risk identification and mitigating those risks to a level that is considered "As Low As Reasonably Practicable". Gippsland Water has been working to the ANCOLD guidelines for a number of years and in the recently completed 2006 ESC audit, was assessed as being compliant with those guidelines. A number of activities and actions have and are being undertaken by Gippsland Water to ensure ongoing compliance with the ANCOLD guidelines and these actions include: • Gippsland Water has a comprehensive dam safety monitoring and surveillance program in place; • Gippsland Water has appropriate consultants carryout annual dam inspections. The same consultant firm is currently carrying out the 5 yearly comprehensive inspections; • A comprehensive data recording program for all dam safety information is a work in progress; • A works program to carryout full design safety reviews has been developed and budget information	Expenditure on Dam Safety is significant, and is reflected in both the day to day operating costs of the business, as well as the long term capital planning processes. Current Water Plan Budgets in relation to operational expenditure identify a spend of approximately $2.5m in the five year period. Current Water Plan budgets in relation to Capital expenditure identify a spend of $6.0m in the five year period.

		inputted into the Water Plan process; • A risk identification process has been carried out on all major dams and is now nearing completion. This data will be entered into the new risk management software when it becomes online; • Business continuity plans are in their first draft and out workings of these plans have also been entered into the Water Plan budgetary process; and • By 30 June 2007 the dam safety works program will be submitted to the Department of Sustainability and Environment.	
Outline any consultation undertaken.			

Obligation: 15 – Conserving and Recycling Water			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	Internal targets for pressure reduction savings: • 08/09 - 11ML • 09/10 - 43ML • 10/11 - 20ML • 11/12 - 17ML • 12/13 - 11ML	Installation of monitoring meters: • on raw water supplies to give accurate measurement of extractions from environment; and • and within reticulation systems to monitor demands and leakage.	Current Water Plan Budgets in relation to operational expenditure identify a spend of approximately $0.35m in the five year period.
Outline any consultation undertaken.		Pressure reduction consultation has been ongoing internally, and will take place externally once implementation is about to occur.	

Obligation: 16 – Water Supply Demand Strategy			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	Gippsland Water are required to develop an initial Water Supply Demand Strategy by April 2007. The Water Supply Demand Strategy must include water conservation targets.	Gippsland Water will, within each five years thereafter, develop a revised Water Supply Demand Strategy to identify the best mix of demand measures and supply options for its urban supply systems. In addition, an annual review of the water supply / demand balance will be undertaken to ensure that actual events do not compromise the actions outlined in the strategy, which are based on forecasted outcomes.	As a significant increase in the forward planning of water resource availability, Gippsland Water has already created a role, for which responsibility for this planning lies. During the period of this Water Plan, full funding for this role is included. Current Water Plan budgets in relation to Capital expenditure identify a significant spend of $22.2m in the five year period on projects identified as actions within the Water Supply Demand Strategy that is currently being finalised.
Outline any consultation undertaken.	Gippsland Water has consulted widely with external parties, including relevant local authorities such as Shire Councils, the West Gippsland Catchment Management Authority, and Southern Rural Water. In additional, Gippsland Water has engaged both industrial customers and residential customers in the development of the Strategy, culminating in the release of a “final draft” for public comment in early April 2007.		

Obligation: 17 - Metering.			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	None in Statement of Obligations. ESC obligation to have all properties connected to our water system to have meters by June 2008. The notional program is about 80% complete with about $1.5m spent to date.	Gippsland Water is looking to ensure that 100% of new properties connected to water are metered.	No expenditure incurred by Gippsland Water, as new meters are part of the land developers costs. The meter replacement program requires replacement every 4,000 kilolitres or 10 years. Current Water Plan budgets in relation to Capital expenditure identify a significant spend of $2.0m in the five year period for meter replacements.
Outline any consultation undertaken.			

Obligation: 18 – Responding to Drought			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	Gippsland Water is required to develop and implement a drought response plan for each water supply system under the authority's control. In addition, Gippsland Water is required to review and amend where necessary these drought response plans, at intervals of no more than five years; or within 12 months, where restrictions have been applied and lifted.	Gippsland Water will conduct the required reviews, and look to further improve the Drought Response Plans during the period of this Water Plan. Reviews will also be closely linked to the improvement actions outlined in Gippsland Water's Water Supply Demand Strategy, and the changes these actions have on management of the water supply systems	As a significant increase in the forward planning of water resource availability, Gippsland Water has already created a role, for which responsibility for this planning lies. During the period of this Water Plan, full funding for this role is included. Current Water Plan budgets in relation to Capital expenditure identify a significant spend of $22.2m in the five year period on projects identified as actions within the in the Water Supply Demand Strategy that is currently being finalised.
Outline any consultation undertaken.	Drought Response Plans are available to the public, under the requirements of this obligation. Gippsland Water continues to consult widely with external parties, including all relevant local authorities; and addresses public requests for information, and requests for explanation of water restrictions and drought response plans.		

Obligation: 19 – Sewerage services to unserviced urban areas			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	 Sewer Backlog Programme within Sewerage Districts	Gippsland Water will comment on all draft local council Domestic Waste Management Plans Delivery of waste services to priority one towns identified by the Victorian Government. This includes Loch Sport, Coongulla, and Glenmaggie during this Water Plan. Deliver half of the prioritised sewer backlog program, targets areas within current sewerage districts that do not have waste services.	 Loch Sport – capital expenditure $45.0m Coongulla – capital expenditure $14.3m Glenmaggie – capital expenditure $6.2m This Water Plan provides $1.7m in capital funding to deliver this program of works.
Outline any consultation undertaken.		External consultation process with local councils has occurred at least quarterly, for last two years.	

Obligation: 20 – Sewerage connections to properties			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	Creation of easements in towns that were sewered during the late 1990's and Gippsland Water failed to have the easements created: • Neerim South - 76 • Boolarra - 81 • Toongabbie – 111 • Glengarry - 120	Scheduled dates for finalising the creation of easements are as follows: • Neerim South – 2007/08 • Boolarra – 2008/09 • Toongabbie – 2010/11 • Glengarry – 2012/13	Total estimated expenditure for these easement creations are as follows: • Neerim South – $0.290m • Boolarra – $0.310m • Toongabbie – $0.425m • Glengarry – $0.460m The costs include Legal Fees, Valuations, Surveying and Compensation.
Outline any consultation undertaken.			

Obligation: 21 – Trade Waste			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	To register all Commercial Trade Waste (CTW) customers (i.e. those other than Major Trade Waste customers who are already on Agreements). Currently only about 50% of CTW customers are registered. To review monitoring requirements within all Major Customer Trade Waste Agreements. To prepare a 'Trade Waste Management Strategy' to meet the requirements of the EPA Information Bulletin; "Principals to Establish EPA Environmental Obligations for Water Businesses for the 2008 – 2013 Pricing Determination". To continue the Gippsland Water EPA Cleaner Production Partnership. To register potential new Trade Waste customers, promptly respond to any operational issues caused by Trade Waste, ensure Trade Waste quality compliance. To review particular Trade Waste categories eg Dentists.	All Trade Waste customers registered. Improved Trade Waste monitoring. Improved Trade Waste quality. Reduced Trade Waste Operational issues. Review of Sewer Disposal Charges. Preparation of Trade Waste Management Plan (EPA obligation) Implementation of requirements of DSE Trade Waste review	Current Water Plan budgets in relation to this obligation provide expenditure of $1.0m in the five year period to address the delivery of actions outlined
Outline any consultation undertaken.	Regular meetings with Major Trade Waste customers. Information sessions eg 'Plumbers nights.' Commercial Trade Waste brochure distribution. Regular meetings with EPA. Newspaper notices		

Obligation: 22 – Regional and Local Government Planning			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	None	Gippsland Water will participate in, and support the development of regional catchment management, regional river health and regional municipal planning schemes. Participation will promote consistency with Gippsland Water's planning and programs for sustainable water management.	Designated personnel currently attend various forums to represent Gippsland Water in the development of local policy. This will continue during the period of this Water Plan.
Outline any consultation undertaken.	Gippsland Water consults widely with external parties, including relevant local authorities such as Shire Councils, the West Gippsland Catchment Management Authority, and Southern Rural Water.		

Obligation: 23 – Research and Knowledge			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)		Gippsland Water continues to actively participate in forums such as, the Gippsland Integrated Natural Resource Management Forum (GINRMF), Gippsland Regional Water Monitoring Partnership (GRWMP) and the Gippsland Research Co-ordination Group. Each forum is a key initiative in delivering an integrated and sustainable approach to management of our natural capital within the Gippsland region. We believe that full implementation of these initiatives, and continued active participation in regional resource management forums is completely consistent with achieving the Victorian Government's resource sustainability objectives. Contribution to the Cooperative Research Centre for Water Quality and Treatment project on odour abatement technologies for sewers and WWTP's. Participate in a research and development project to produce a modelling tool to estimate stream flows and water quality under different scenarios of land use, catchment management activities and climate change.	Gippsland Water will contribute $0.2m toward funding Cooperative Research Centres: • Water Quality and Treatment; • Freshwater Ecology; and • Environment and Biotechnology.
Outline any consultation undertaken.			

Obligation: 24 – Sustainable Management			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	Use of a life cycle approach in the management of business operations (EPA Publication 1069). Adopt the Waste Hierarchy to implement water conservation activities, to reduce demand on drinking and river water supplies (EPA Publication 1069). Adopt the Waste Hierarchy to reduce the consumption of chemicals and energy in the provision of services (EPA Publication 1069). Reduction of mixing zones in waterways receiving discharge from WWTPs (EPA Publication 1069).	Cooperate with Sustainability Victoria to develop and implement a sustainability assessment tool applicable to the water industry. Gippsland Water Factory associated projects, and Water Supply Demand Strategy actions. Improvements in operating and management practices to reduce chemical and energy demand, without compromising service provision. Understanding of mixing zone boundaries for all discharges to waterways, and ecological impacts of mixing zones. Determination of process change requirements for reduction of mixing zones (capital upgrades, chemical and energy demands). Implement changes to processes, where cost,	Develop and implement a sustainability assessment tool applicable to Gippsland Water's activities. Gippsland Water Factory associated projects, and Water Supply Demand Strategy actions. Include chemical and energy consumption data in plant performance reports, to identify and implement efficiency opportunities through process modifications. Define mixing zones for discharges from: • Warragul; • Moe; • Morwell; • Drouin; • Rawson; and • Neerim South. Develop Energy and Greenhouse

		energy and chemical demands are acceptable to stakeholders.	Management Strategy, and undertake projects to reduce greenhouse impacts.
	Adoption of the Waste Hierarchy to reduce greenhouse gas emissions (EPA Publication 1069).	Implement changes to processes, where cost, energy and chemical demands are acceptable to stakeholders.	
	Biosolids management strategies to achieve target of 100% beneficial reuse (EPA Publication 1069).	Biosolids Management Plan will inform sludge and biosolids management practices to achieve 100% beneficial reuse of stabilised biosolids.	Where current or potential future trade waste impacts on beneficial reuse of biosolids and reclaimed water, and mixing zones of waterways, are identified, negotiate cleaner production and waste minimisation projects with trade waste generators.
	No dry weather sewerage spills and containment of flows from up to 1-in-5 storm events (EPA Publication 1069).	Activity Management Plan to inform sewerage system management actions to prevent spill events under normal operating conditions. Capital projects included in Water Plan to prevent 1-in-5 storm events.	Within the capital plan, there are projects that will be constructed to prevent the 1 in 5 year Average Recurrence Interval spills. Gippsland Water also has a program to calibrate the hydraulic models that indicate the works required to contain the 1 in 5 year Average Recurrence Interval events.
	Reduction of impacts of trade waste on biosolids reuse, reclaimed water quality, and mixing zones of waterways (EPA Publication 1069).	Trade Waste Management Plan will inform activities to reduce trade waste impacts on beneficial reuse of biosolids and reclaimed water, and mixing zones of waterways.	Improved monitoring to trade waste quality for specific industry sources to better understand current or potential future trade waste impacts on assets and activities.
Outline any consultation undertaken.		External consultation with the Environmental Protection Agency, Department of Sustainability and Environment, and Sustainability Victoria.	

Obligation: 25 – Sustainable Water Strategy			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	Gippsland Water is required to manage its demand and supply balance to ensure it can meet demand for a minimum of seven years. In addition, Gippsland Water is required to develop a program of works to secure water supplies beyond seven years.	Gippsland Water will work with the Victorian Government and other Authorities in the development, and review of the Victorian Government's Sustainable Water Strategies, in particular, the – • Central Region Sustainable Water Strategy; and • Gippsland Sustainable Water Strategy. In addition, Gippsland Water's Water Supply Demand Strategy will be developed and reviewed in light of actions outlined in these sustainable water strategies.	As a significant increase in the forward planning of water resource availability, Gippsland Water has already created a role, for which responsibility for this planning lies. During the period of this Water Plan, full funding for this role is included. Current Water Plan budgets in relation to Capital expenditure identify a significant spend of $22.2m in the five year period on projects identified as actions within the in the Water Supply Demand Strategy that is currently being finalised.
Outline any consultation undertaken.	Gippsland Water has consulted widely with external parties, including relevant local authorities such as Shire Councils, the West Gippsland Catchment Management Authority, and Southern Rural Water in relation to the Water Supply Demand Strategy. In addition, Gippsland Water has engaged both industrial customers and residential customers in the development of the Strategy, culminating in a "final" Water Supply Demand Strategy in late April 2007.		

Obligation: 26 – Environmental Management System			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	Ongoing maintenance of Environmental Management System, based on ISO14000:2004 series of standards.	Improved business processes to ensure that environmental risks are identified and managed throughout the organisation.	Continue to develop and modify elements of EMS to improve its effectiveness in managing environmental risks.
Outline any consultation undertaken.			

Obligation: 27 – Blue Green Algal Blooms			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	27.1 New rules recently invoked by DSE (in consultation with DHS) from November 2006. 27.2 Gippsland Water is not a convening agency so minimal impact.	Additional obligations to notify Convening Agency and DHS for Algal events, and tighter measures defining Algal events require more frequent notification and increased potential to implement enhanced management practises to manage algal events whilst minimising impacts to customers. Additional ongoing monitoring during events and increased demand for and operation of temporary treatment systems incurring increased capital and operations costs.	Current Water Plan budgets in relation to operational expenditure identify a minor additional expenditure in the five year period.
Outline any consultation undertaken.		Gippsland Water consults with the Department of Human Services, and Southern Rural Water in relation to these events. Gippsland Water also uses media releases to alert the community to concerns with water supply.	

Obligation: 28 - River and Aquifer Health			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	Reduction of mixing zones in waterways receiving discharge from WWTPs (EPA Publication 1069). No dry weather sewerage spills and containment of flows from up to 1-in-5 storm events (EPA Publication 1069).	Participation in and contribution to Gippsland Regional Water Monitoring Program, to support a regional approach to acquisition of water quality and volume data. Monitor impacts of waterway barriers on ecological health of waterways. Work with West Gippsland Catchment Management Authority to prioritise locations for fish passages around waterway barriers, and install fish passages at higher priority locations. Work with Southern Rural Water to better understand impact of aquifer yield on health of total aquifer. Understanding of mixing zone boundaries for all discharges to waterways, and ecological impacts of mixing zones. Determination of process change requirements for reduction of mixing zones (capital upgrades, chemical and energy demands).	Participation in and contribution to Gippsland Regional Water Monitoring Program, to support a regional approach to acquisition of water quality and volume data. Undertake ecological health surveys of priority waterways identified with West Gippsland Catchment Management Authority - $0.3m. Install fish passages around waterway barriers on priority waterways identified - $0.4m. Define mixing zones for discharges from: • Warragul; • Moe; • Morwell; • Drouin; • Rawson; and • Neerim South.

Outline any consultation undertaken.	External consultation with West Gippsland Catchment Management Authority and Environmental Protection Authority.

Obligation: 29 – Monitoring River Health			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)		Participation in and contribution to Gippsland Regional Water Monitoring Program, to provide water quality and volume data, downstream from Moondarra Reservoir. Monitor impacts of Moondarra Reservoir on the ecological health of Tyers River. Provision of water quality and flow data to the Victorian Water Quality Database, for public access.	Contribute to administrative and monitoring costs of Gippsland Regional Water Monitoring Program. Participation on Gippsland Regional Water Monitoring Program Steering Committee. Undertake ecological health surveys of Tyers River with West Gippsland Catchment Management Authority - $0.2m. Provide GRWMP with access to water quality and flow data currently owned by Gippsland Water.
Outline any consultation undertaken.	External consultation with West Gippsland Catchment Management Authority, and Gippsland Regional Water Monitoring Program.		

Obligation: 30 – Capital Contributions By Property Owners			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	None	Gippsland Water will promote the availability of an instalment payment scheme to any property owners required to make a contribution for the provision of reticulated sewerage services.	Capital expenditure on reticulated sewerage schemes, inclusive of owner contributions for part of development during this Water Plan period.
Outline any consultation undertaken.	Consultation is required on a scheme by scheme basis, and will occur on a "needs" basis during the planning of any proposed reticulation scheme. Gippsland Water has proactively engaged the community of Seaspray in the current sewerage reticulation scheme, and will continue to use this approach during this Water Plan period.		

Obligation: 31 – Providing Concessions and Rebates			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	None	Gippsland Water will continue to administer Victorian Government funded programs in accordance with their respective requirements, including: • Utilities Relief Grants Scheme; • Concessions for water service and usage charges and sewerage service and sewerage disposal charges; • Water concession on Life Support Machines; • Hardship Relief Grant Scheme; and • Water and Sewerage Rebate Scheme.	The administration of these activities is incorporated into general operating costs.
Outline any consultation undertaken.			

Obligation: 32 – Smart Water Fund			
Status:	**What targets have been imposed, if any?**	**What outcomes will be delivered in Water Plan period?**	**Expenditure or projects aimed at meeting the obligations.**
Business as usual (prior to 1 July 2008)	No targets established other than obligation to support Smart Water Fund.	During this Water Plan, Gippsland Water will have a representative involved on the evaluation panel of the Smart Water Fund Regional category. In addition, Gippsland Water will promote the fund within the local community via media releases, assistance to potential applicants and financially contributing to holding information sessions within our region.	Gippsland Water will financially contribute approximately $4,000 in direct expenditure to the promotion of the fund via media releases and paid advertisements in the local papers and news outlets. Gippsland Water will also be contributing in-kind resources for staff to travel and attend regional evaluation meetings during the evaluation of the Smart Water Fund Regional round. In addition to this, Gippsland Water will provide in kind support to potential applicants throughout the application development process.
Outline any consultation undertaken.	The only direct consultation being undertaken with this obligation will be the community consultation throughout the advertising campaign and information sessions that will be conducted during the application phase of the fund.		

APPENDIX 3: COMMUNITY CONSULTATION UNDERTAKEN

1. GIPPSLAND WATER FACTORY

Community information sessions 2006

- 27 March - **Morwell**
- 28 March - **Sale**
- 29 March - **Traralgon**

Works Approval Application consultation sessions 2006

- 26 April - **Sale**
- 27 April - **Traralgon**
- 1 May - **Morwell**

Rosedale Wastewater Treatment Plan specific consultation

- 16 August 2006
- 19 September 2006
- 21 February 2007

Community Info Sessions 2007

- 12 and 13 February - focus groups regarding the multi-purpose facility
- Tues 8 May 2007 – **Churchill**
- Tues 8 May 2007 and Tues 15 May 2007 – **Morwell**
- Thurs 17 May 2007 and Wed 30 May 2007 – **Traralgon**
- Fri 11 May 2007 and Thurs 24 May 2007 – **Sale**
- Thurs 17 May 2007 and Wed 30 May 2007 – **Rosedale**

2. WATER SUPPLY DEMAND STRATEGY

- **Wellington Shire community** - Wednesday 22 March 2006
- **Baw Baw Shire community** - Thursday 23 March 2006
- **Latrobe City community** - Wednesday 15 March 2006
- **Major Clients** - Wednesday 15 March 2006
- **Wellington, Baw Baw and Latrobe City Councils** - Thursday 16 March 2006
- **Victorian Government stakeholders, Waterwatch and Landcare** - Thursday 9 March 2006

An online survey with 107 respondents was also conducted

3. CUSTOMER CHARTER CONSULTATION ACTIVITIES

- Customer Focus Groups – December 2004
- Customer Satisfaction Surveys – January/February 2005
- Newspaper Advertisements – January 2005
- Shopping Centre Visits – February 2005
    - Gippsland Centre Sale
    - Stockland Shopping Centre Traralgon
    - Mid Valley Shopping Centre Morwell
    - Purvis Plaza Moe
    - Centrepoint Shopping Centre Warragul

The Environment and Customer Consultative Committee were also consulted for this process.

APPENDIX 4.1: CUSTOMER SURVEYS

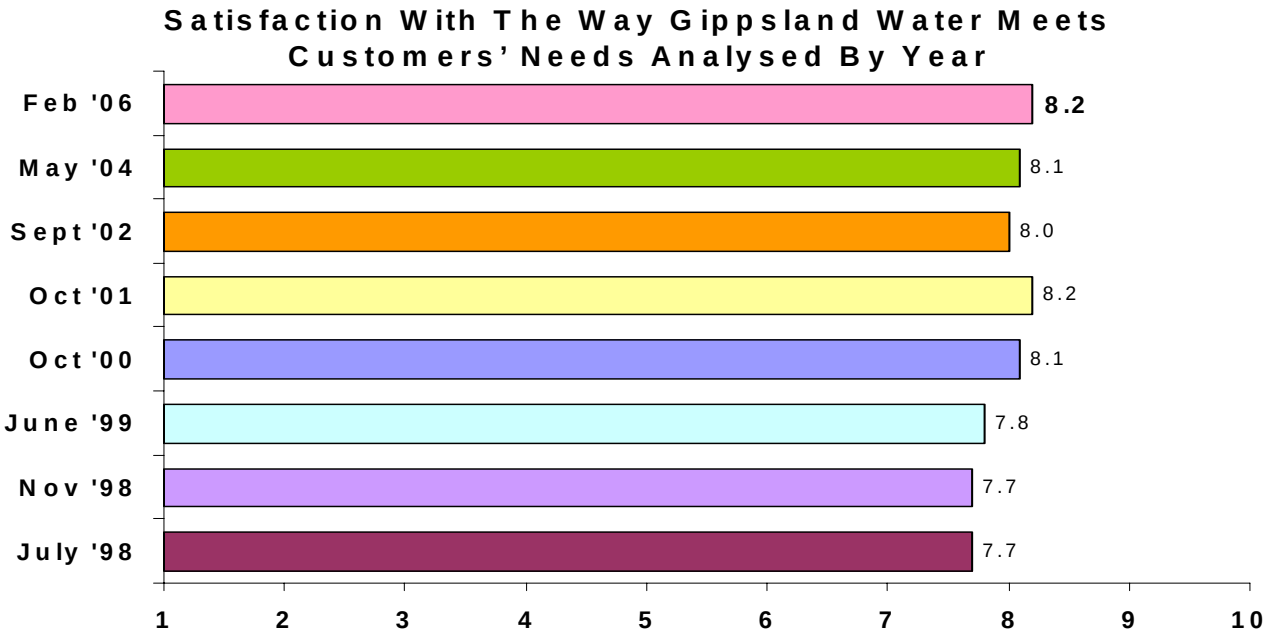
The latest customer survey was conducted during January 2006, when Gippsland Water commissioned Nexus Research to conduct a telephone customer survey to assess satisfaction levels.

The key areas the survey investigated included:

- Awareness of services provided by Gippsland Water;
- Satisfaction with water quality;
- Behaviour with drinking water;
- Satisfaction with wastewater services;
- Reactions to planned and unplanned interruptions;
- Satisfaction when contacting Gippsland Water;
- Satisfaction with Gippsland Water's environmental management;
- Satisfaction with billing and customer service;
- Awareness of public relations and educational materials;
- Overall satisfaction with Gippsland Water; and
- Comparison of Gippsland Water services with other providers.

In relation to overall satisfaction with Gippsland Water, respondents were asked to take everything into account and rate on a scale from '0' (extremely dissatisfied) to '10' (extremely satisfied) how satisfied they were with the way Gippsland Water meets all their needs. The average score generated by the total sample was 8.2, with 87% of respondents rating Gippsland Water a score of 7 or higher. This result was in line with the average score of 8.1 recorded in the 2004 survey (refer Figure 12).

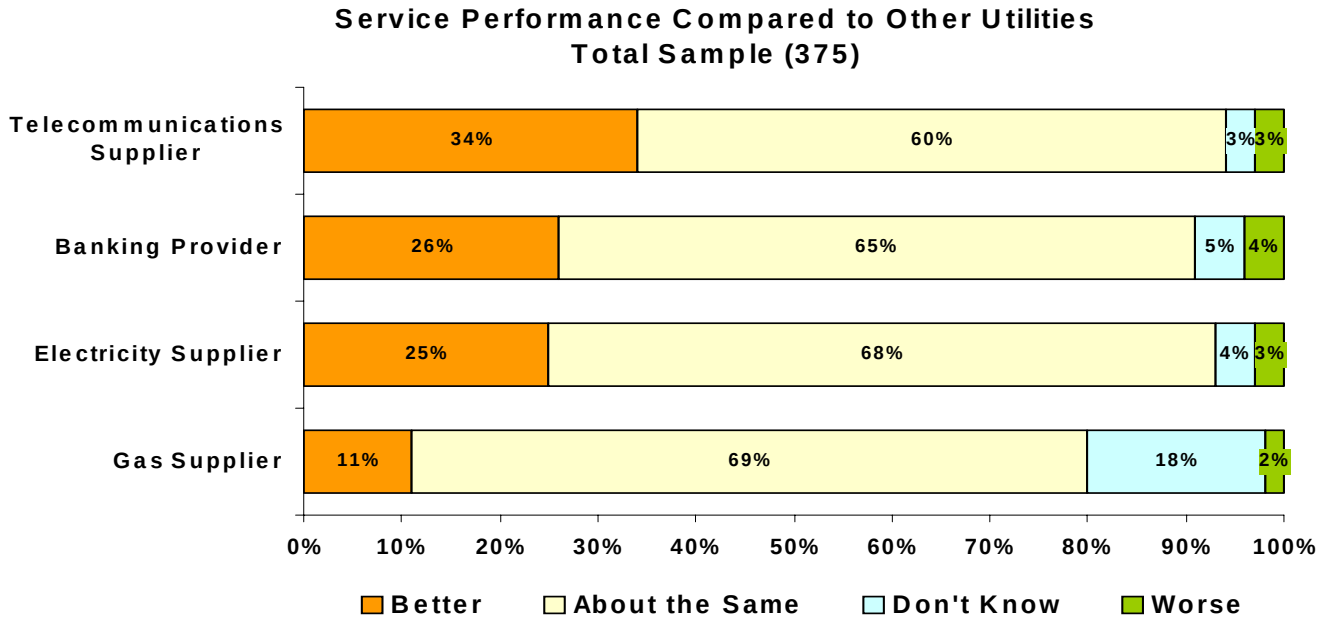
Figure 12: 2006 Customer Survey – Overall Satisfaction



In relation to Gippsland Water's service performance compared to other utilities, using the following scale – "much better, a little better, about the same, a little worse, much worse", respondents were asked to rate the service performance of Gippsland Water compared to four other utilities.

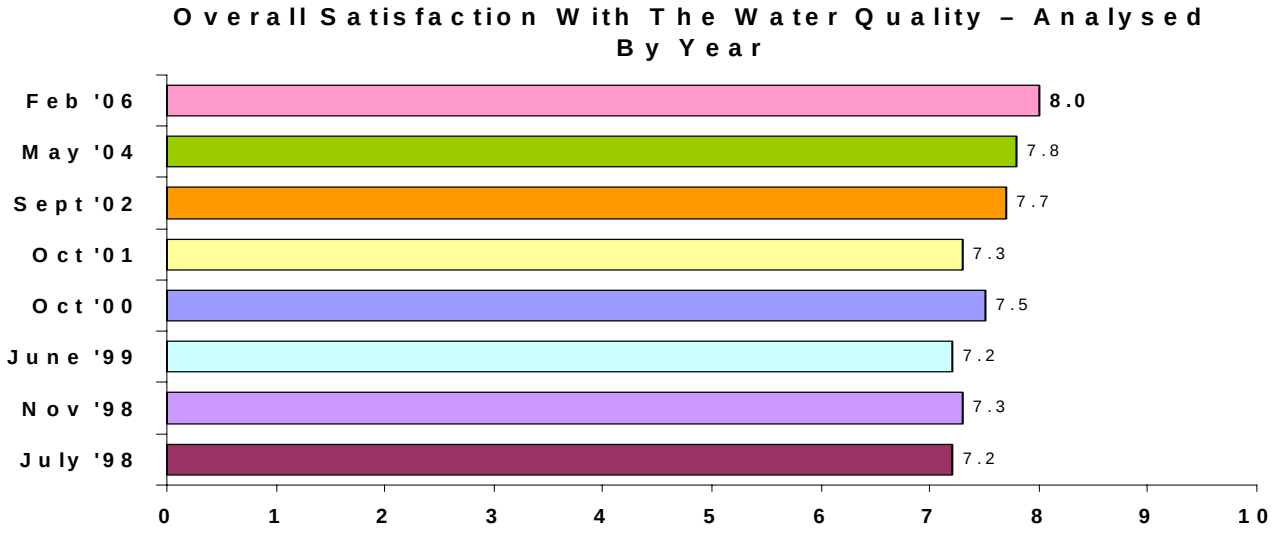
In general, almost 70% of the respondents considered Gippsland Water's service performance to be "about the same" as the gas and electricity providers, while 65% and 60% of respondents respectively thought that Gippsland Water was "about the same" as their banking provider and telecommunications supplier (refer Figure 13).

Figure 13: 2006 Customer Survey – Service Performance compared to other Utilities



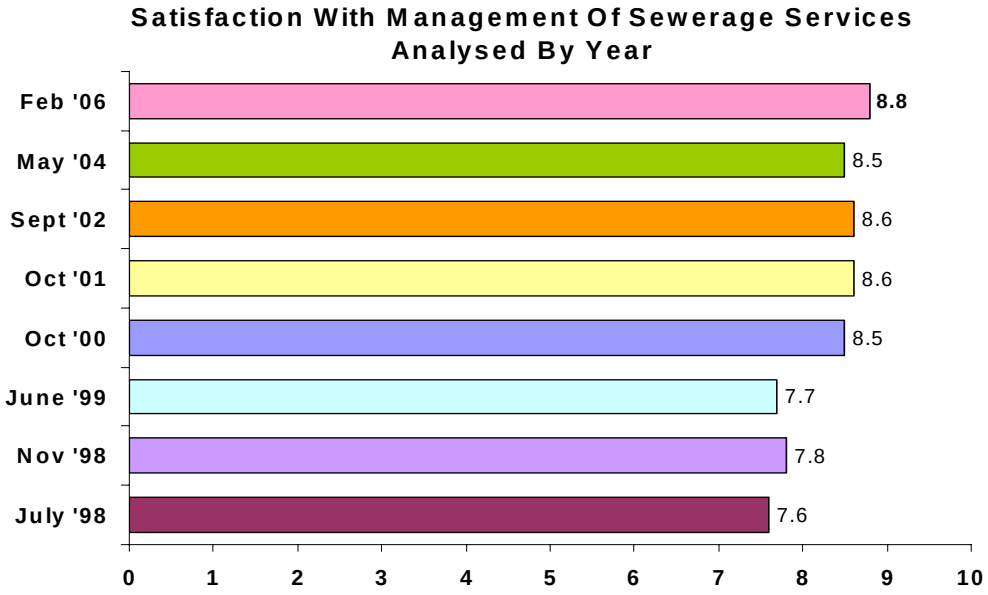
When questioned about water quality, respondents allocated an overall satisfaction score of 8.0 for their satisfaction with the quality of water received from Gippsland Water. This compared to 7.8 for the previous year and was the highest level achieved in the seven years of conducting the survey (refer Figure 14).

Figure 14: 2006 Customer Survey – Overall Satisfaction with Water Quality



Regarding sewerage, participants allocated an overall satisfaction score of 8.8 for the way Gippsland Water manages their sewerage services, slightly higher than the score recorded in 2004. Reasons for their satisfaction resulted from never having to worry about the service (64%) and the fact that nothing ever goes wrong (39%) (refer Figure 15).

Figure 15: Overall Satisfaction with management of Sewerage services



The strengths of Gippsland Water, as highlighted in the 2006 survey, were the continued increases in the survey areas of:

- Overall satisfaction with the quality of water received from Gippsland Water;
- Rating the clarity, safety, taste and smell of the drinking water supplied to their homes by Gippsland Water;
- Overall satisfaction with the way Gippsland Water manages your sewerage services;
- A continual decline in the number of respondents having had an interruption or fault with their water or sewerage services due to an unplanned or emergency incident; and
- Taking everything into account, satisfaction with the way Gippsland Water meets all your needs.

Areas where significant improvement have been noted this year when compared with the previous survey are:

- Increased spontaneous awareness of Gippsland Water providing wastewater (sewerage/sewage) services;
- A higher percentage of respondents connected to the sewerage system; and
- More respondents indicating that the water is always/often “clean and clear”, “has a pleasant taste”, and has “no smell”; and rarely/never is “cloudy”.

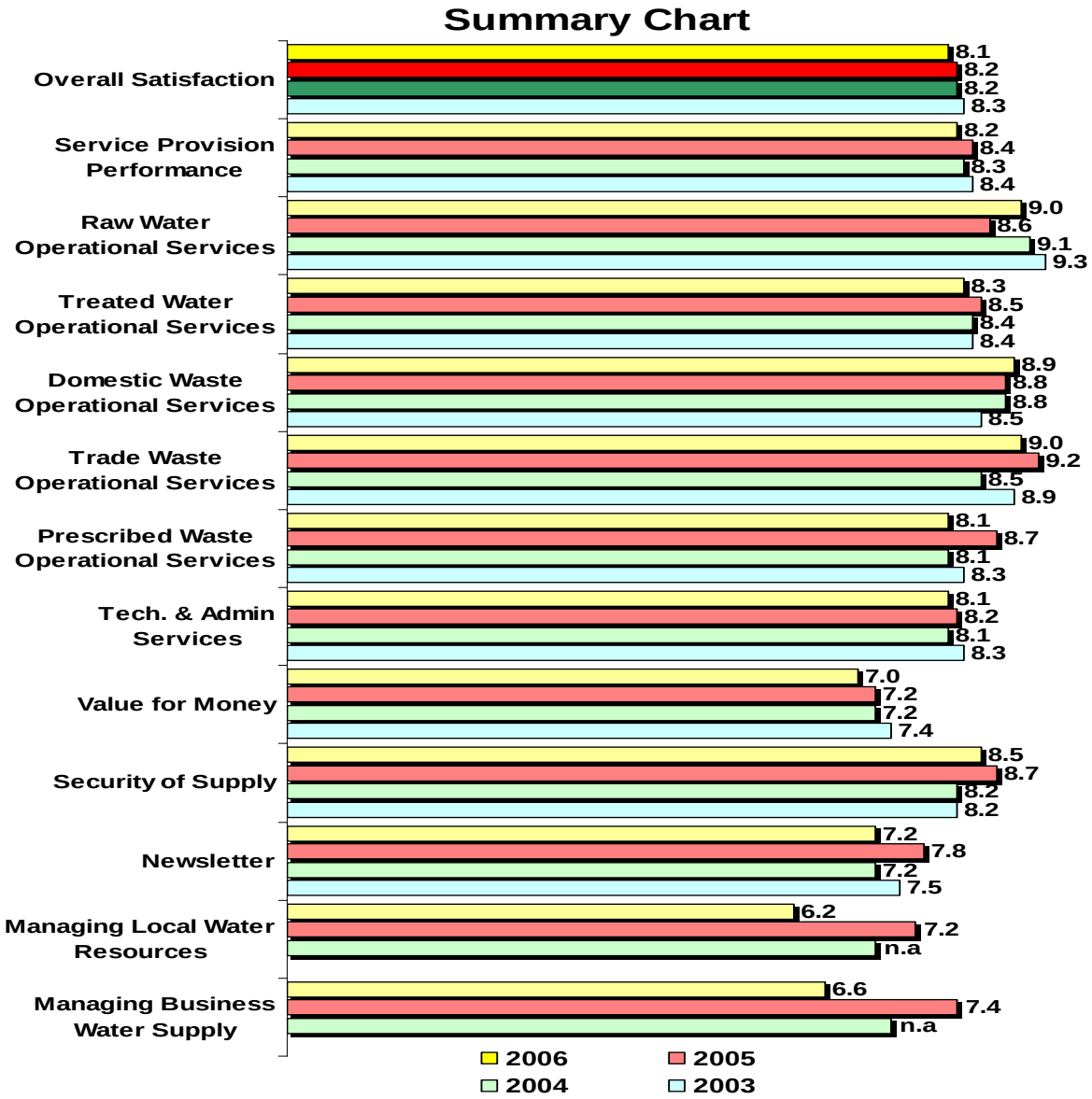
An area of improvement for Gippsland Water as highlighted in the 2006 survey was that 47% of respondents were still not aware of what Gippsland Water was doing for the local environment. This highlighted the need to ensure that future promotional materials remind customers about Gippsland Water’s environment policy and how it manages its operations to minimise environmental impacts.

APPENDIX 4.2: MAJOR CLIENT SURVEYS

The 2006 major client survey concluded that these major clients were generally happy and satisfied overall with the products and services received from Gippsland Water in the last 12 months, with few issues being identified. Major clients felt they worked well together with Gippsland Water, there was open communication, Gippsland Water were "good listeners" and regularly made contact or provided updates on information. There was good progression noted on projects happening with Gippsland Water, staff often provided recommendations and they were proactive with issues. If there was a client request Gippsland Water responded quickly.

The level of satisfaction with the various aspects of service provided by Gippsland Water is high. The average overall level of satisfaction during 2006 was 8.1 (out of a maximum of 10), similar to the 8.2 recorded previously. Major client satisfaction, in relation to the services provided by Gippsland Water is depicted in Figure 16.

Figure 16: **Major Client satisfaction**



APPENDIX 5: SERVICE STANDARDS - DEFINITIONS

The following information provides details of how each of the service standards discussed in this Water Plan are defined and calculated.

WATER SERVICE STANDARDS

Unplanned water supply interruptions
Gippsland Water has used the "Water supply interruptions" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure is referred to as KPI no. 1 in the service standard tables, and is calculated as:

- Water Supply Interruptions (No) Unplanned / Length of Water Main (km)*100

Average time taken to attend unplanned water supply interruptions
Gippsland Water has used the "Total minutes to respond to burst and leaks" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure takes into account the wide geographical region covered by Gippsland Water.
This measure is referred to as KPI no. 2 and no. 3 in the service standard tables, and is calculated as:

- Total minutes to respond to bursts and leaks (minutes) Priority 1 / Bursts and leaks (No) Priority 1 (Priority 1 - Attend within 1 hour)
- Total minutes to respond to bursts and leaks (minutes) Priority 2 / Bursts and leaks (No) Priority 2 (Priority 2 - Attend within 4 hours)

Unplanned water supply interruptions restored within [5] hours
Gippsland Water has used the "Water supply interruptions restored within 3, 5 & 12 hours" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure is referred to as KPI no. 4 in the service standard tables, and is calculated as:

- Water Supply Interruptions restored within 5 hours (No) Unplanned / Water Supply Interruptions (No) unplanned

Planned water supply interruptions restored within [5] hours
Gippsland Water has used the "Water supply interruptions restored within 3, 5 & 12 hours" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure is referred to as KPI no. 5 in the service standard tables, and is calculated as:

- Water Supply Interruptions restored within 5 hours (No) Planned / Water Supply Interruptions (No) Planned

Average unplanned customer minutes off supply
Gippsland Water has used the "Customer-minutes to restore water supply" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure is referred to as KPI no. 6 in the service standard tables, and is calculated as:

- Customer minutes to restore water supply (minutes) Unplanned / Water customers (No.) domestic + Water customers (No.) Non-domestic

Average planned customer minutes off supply
Gippsland Water has used the "Customer-minutes to restore water supply" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure is referred to as KPI no. 7 in the service standard tables, and is calculated as:

- Customer-minutes to restore water supply (minutes) Planned / Water customers (No.) Domestic + Water Customers (No.) Non-domestic

Average unplanned frequency of water supply interruptions
Gippsland Water has used the "Water supply customer-interruptions" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure is referred to as KPI no. 8 in the service standard tables, and is calculated as:

- Water supply customer-interruptions (No.) Unplanned / Water customers (No.) Domestic + Water customers (No.) Non-domestic

Average planned frequency of water supply interruptions
Gippsland Water has used the "Water supply customer-interruptions" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure is referred to as KPI no. 9 in the service standard tables, and is calculated as:

- Water supply customer-interruptions (No.) planned / Water customers (No.) Domestic + Water customers (No.) Non-domestic

Average duration of unplanned water supply interruptions
Gippsland Water has used the "Customer-minutes to restore water supply" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure is referred to as KPI no. 10 in the service standard tables, and is calculated as:

- Customer-minutes to restore water supply (minutes) Unplanned / Water supply customer interruptions (No.) Unplanned

Average duration of planned water supply interruptions
Gippsland Water has used the "Customer-minutes to restore water supply" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure is referred to as KPI no. 11 in the service standard tables, and is calculated as:

- Customer-minutes to restore water supply (minutes) Planned / Water supply customer interruptions (No.) Planned

Number of customers experiencing [5] unplanned water supply interruptions in the year
Gippsland Water has used the "Customers receiving 1, 2, 3, 4, 5 & 6+ water supply interruptions in year" definition from Attachment A of the ESC's Decision Paper on Performance Reporting

Framework Metropolitan and Regional Businesses. This measure is referred to as KPI no. 12 in the service standard tables, and is calculated as:

- Customers receiving 5 unplanned interruptions in the year (No.) / Water customers (No.) Domestic + Water customers (No.) Non-domestic

Unaccounted for water
Gippsland Water has used the "Non revenue water" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure is referred to as KPI no. 13 in the service standard tables, and is calculated as:

- Volume of water received (ML) - (Metered volume of water delivered to customers (ML) Domestic + Metered volume of water delivered to customers (ML) Non-domestic) / Volume of water received (ML)

SEWERAGE SEVICE STANDARDS

Sewerage blockages
Gippsland Water has used the "Sewer Blockages" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure is referred to as KPI no. 14 in the service standard tables, and is calculated as:

- Sewer blockages (No.) Main + HCB / Length of sewerage main (km)*100

Average time to respond to sewer spills and blockages
Gippsland Water has used the "Total minutes to respond to reported blockage/spill" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure is referred to as KPI no. 15 in the service standard tables, and is calculated as:

- Total minutes to respond to reported blockage/spill / Sewer blockages No. Main + Sewer blockages No. HCB + Sewer spills not caused by blockages

Average time to rectify a sewer blockage
Gippsland Water has used the "Total time taken to repair blockage/spill" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure is referred to as KPI no. 16 in the service standard tables, and is calculated as:

- Sewer blockages (No.) Main + HCB / Total time taken to repair blockage

Spills contained within [5] hours
Gippsland Water has used the "Sewer spills from reticulation and branch sewers fully contained within 5 hours" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure is referred to as KPI no. 17 in the service standard tables, and is calculated as:

- Sewer spills from reticulation and branch sewers contained within 5 hrs (no.) Priority 2 / Sewer spills from reticulation and branch sewers (No.) Priority 2

Customers receiving [3] sewer blockages in the year

Gippsland Water has used the "Customers receiving more than 1, 2, 3 & 4+ sewer blockages in year" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure is referred to as KPI no. 18 in the service standard tables, and is calculated as:

- Customers receiving 3 sewer blockages in the year (No.) / Sewerage Customers (No.) Domestic+ Sewerage Customers (No.) Non-domestic

CUSTOMER SERVICE STANDARDS

Complaints to EWOV

The Energy Water Ombudsman of Victoria (EWOV) measures the level of complaints they receive in relation to Gippsland Water. This measure is referred to as KPI no. 19 in the service standard tables, and is calculated as:

- Number of Level 1 Complaints per 1000 customers per year

Telephone calls answered within 30 seconds

Gippsland Water has used the "Calls connected to operator within 30 sec" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure is referred to as KPI no. 20 in the service standard tables, and is calculated as:

- (Call Connect time to operator (sec) Account Line + Call Connect time to operator (sec) Fault Line) / Water Customers (No.) Domestic + Water Customers (No.) Non-domestic

ADDITIONAL SERVICE STANDARDS

Average time taken to attend unplanned water supply interruptions

Gippsland Water has used the "Total minutes to respond to burst and leaks" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. This measure takes into account the wide geographical region covered by Gippsland Water.

This measure is referred to as KPI no. 21 in the service standard tables, and is calculated as:

- Total minutes to respond to bursts and leaks (minutes) Priority 3 / Bursts and leaks (No.) Priority 3 (Priority 3 - Attend within 2 working days)

Drinking Water Quality

Gippsland Water has used the "Standards for drinking water quality" definition from Attachment A of the ESC's Decision Paper on Performance Reporting Framework Metropolitan and Regional Businesses. These standards are defined by DHS in the Safe Drinking Water Act 2003. They are referred to as KPI no. 22, 23 and 25 in the service standard tables, and are calculated as:

- Population receiving water meeting E.coli standards
  - (Number of SDWA compliant results / Number of parameters monitored for SDWA Compliance) / Population
- Population receiving water meeting Disinfection by-products standards
  - (Number of SDWA compliant results / Number of parameters monitored for SDWA Compliance) / Population
- Population receiving water meeting Turbidity standards

- (Number of SDWA compliant results / Number of parameters monitored for SDWA Compliance) / Population

EPA discharge quality licence compliance

Gippsland Water is bound by existing EPA licence requirements and will continue to strive for 100% compliance of wastewater discharge quality. This measure is referred to as KPI no. 24 in the service standard tables, and is calculated as:

- Number of EPA License Compliant Results / Number of parameters monitored for EPA License Compliance

APPENDIX 6: PRUDENT AND EFFICIENT CAPITAL EXPENDITURE

Gippsland Water's approach to each issue in the development of the capital expenditure plan is as follows:

Drivers requiring capital undertakings

Table 74 provides details of the system applied by Gippsland Water to all capital projects, to aid the understanding of drivers of capital expenditure. This understanding of drivers for proposed capital projects is significant in allowing for prioritisation of capital projects (in conjunction with risk/criticality assessments), when funding availability does not match proposed project expenditure needs.

Table 74: Drivers for Capital Works

Drivers for Capital Works						
Category	**Nature of potential problem / issue**	**Cause of problem**	**High Level Driver (Whiteboard Notes)**	**What is driving requirement to act**	**What are likely CapEx outcomes**	**Who identifies potential problem (GW)**
1	**Asset Condition Issue**	Asset deterioration	Activity Management Plan	Customer Service KPIs	Asset Renewal or Refurbishment	Field Ops; AMG
2	**System Capacity / Pressure Issue**	Growth / Development	Activity Management Plan	Customer Service KPIs	System Augmentation (Existing)	AMG; Treatment; Major Systems; Field Ops
3	**Unserviced Existing Development**	Planning	Government Direction	White Paper	Backlog Scheme (New Extension)	AMG
4	**Unserviced New Development**	Development	Regulation	ESC Policy	Shared Assets (New Extension)	AMG; Finance & Regulation
5	**Unserviced Town**	Planning	Government Direction	White Paper	Country Town Water Supply & Sewerage Scheme (New)	Finance & Regulation
6	**Water Resource Shortfall**	Demand	Government Direction	White Paper (WSDS, CRSWS)	Various (Security measures, Recycling, Augmentation, Water Savings, etc.)	Strategic Planning
7	**Water Quality / Environmental Issue**	Various	Regulation	KPIs, SDWA, EPA	Various (Asset Renewal, Re-configuration, Refurbishment, etc.)	Field Ops; Treatment; Env & WQ Governance
8	**OH&S Issue**	Various	Regulation	OH&S Regulation	Minor CapEx (Upgrading, Retrofitting, Modifications)	AMG; Treatment; Major Systems; Field Ops; Safety Coordinator
9	**Operational Efficiency Issue**	Various	Commercial Efficiency	Commercial	Various	Operations

Risk / Criticality Assessment

Table 75 provides details of the system applied by Gippsland Water to all capital projects, to aid the understanding of risk and criticality of each project. This understanding of risk and criticality for proposed capital projects is significant in allowing for prioritisation of capital projects (in conjunction with drivers), when funding availability does not match proposed project expenditure needs.

Table 75: Risk Prioritisation Criteria

General Risk Based Prioritisation Criteria for Capital Projects

Risk Ratings:

Critical
High
Medium
Low

Risk Matrix:

		Consequence of failure to meet obligation / service level standard				
		Catastrophic	Major	Moderate	Minor	Some impact
Likelihood (ie. estimated timing of failure to meet obligation / service level)	Immediate (07/08)	Critical	Critical	Critical	High	Medium
	< 2 years (WP1)	Critical	Critical	High	High	Medium
	3 to 7 years (WP2)	Critical	High	High	Medium	Medium
	8 to 12 years (WP3)	High	High	Medium	Medium	Low
	> 12 years (WP4+)	Medium	Medium	Medium	Low	Low

Consequence Rating Guidelines:

		Consequential impact on stakeholders of failure to meet obligation				
Who's impacted		Catastrophic	Major	Moderate	Minor	Some impact
Any person		any number of persons with permanent illness or deaths	many persons with short term severe or long term minor illness	few persons with short term severe or long term minor illness, many persons with short term minor illness	many persons with short term minor illness	few persons with short term minor or any effects not identified
Domestic customers		many persons with long term severe illness	many persons with short term severe illness, few persons with long term severe illness	many persons with short term minor illness, few persons with long term minor illness	few persons with short term minor illness	minor inconvenience or any affects not identified
Business customers	Minor customers	1,000 business days lost	500 business days lost	100 business days lost	10 business days lost	1 business day lost
	Major customers	> 1 business day lost and/or > $1,000,000 loss	1 business day lost and/or $1,000,000 loss	1 business day interrupted and/or $200,000 loss	few hours interruption and/or $100,000 loss	inconvenience, minor loss $10,000
Public / External	General public	widespread (Vic) outrage, widespread cost of living penalties	widespread (regional) outrage, region wide cost of living penalties	local outrage, local penalties	short term inconvenience, few citizens complain	slight, very short term inconvenience, 1 complaint
	Private property owners	many buildings / assets damaged	> 5% properties, short term inconvenience, minor damage	5% properties, short term inconvenience, minor damage	1 property, short term inconvenience, minor damage	slight, very short term inconvenience, no property damage, loss of enjoyment
	Environment	widespread, lost time recovery or permanent loss	widespread, short term recovery or permanent loss	local, short term recovery, some remedial work needed	contained, short term recovery, no remedial work needed	no detrimental effects identifiable
Corporate / Regulatory	Board and senior managers	Members jailed, Criminal suit	prosectuted, civil suit	extra-ordinary Board meeting, Senior Manager re-allocated	Board notified	no Board involvement
	Employees OH&S	death, permanent injury causing inability to work, staff turnover 20%	permanent injury, lost time impairment, lost time injuries >20 person days, staff turnover <20%	lost time injury > 5 person days, staff turnover < 10%	lost time injury < 5 person days, staff turnover < 5%	lost time injuries < 1 person day, staff turnover < 1%
	Fines / legal penalties	> $1,000,000	$500,000	$100,000	$10,000	$1,000
	PR costs	> $100,000 additional PR costs	$100,000 additional PR	$10,000 additional PR	$1,000 additional PR	> $300 additional PR
	Compensation for loss of service	compensation paid to 100% of customers effected	compensation paid to 75% of customers effected	compensation paid to 50% of customers effected	compensation paid to 20% of customers effected	compensation paid to 5% of customers effected
	Compensation for property / economic damage (third party payout)	$1,000,000	$500,000	$100,000	$10,000	$1,000
	Loss of income	100%	50%	10%	5%	1%
Operations	Reactive O&M costs	> $300,000 immediate reactive O&M costs	$100,000 immediate reactive O&M costs	$50,000 immediate reactive O&M costs	$10,000 immediate reactive O&M costs	$1,000 immediate reactive O&M costs
	Business costs	> $100,000 rise in business costs	$50,000 rise in business costs	$10,000 rise in business costs	$5,000 rise in business costs	$1,000 rise in business costs
	Repair costs	>$1,000,000 immediate repair / recovery costs, funded by major budget re-allocation, and/or major extra borrowing	$200,000 immediate repair / recovery costs, funded by major budget deferral, and/or major extra borrowing	$50,000 immediate repair / recovery costs, funded by some budget adjustment, and/or minor extra borrowing	$10,000 immediate repair / recovery costs, funded by minor budget adjustment	$1,000 immediate repair, recovery costs
Government		Government takeover	Ministerial direction / Board replaced, Authority issues directive	questions in Parliament, Statutory Authority warning	Ministerial query, Statutory Authority formally notified	local member query, Authority inquiry

Developing timelines for pre construction planning and consultation

Gippsland Water recognises that there is a need to base capital expenditure on a defendable timeline for pre construction activities. Pre construction activities would generally include:

- Options Study,
- Internal Approvals,
- Functional Design,

- Business Case,
- Stakeholder approvals,
- Planning and works approvals, and
- Land acquisition

Gippsland Water has adopted two distinct timelines to apply to capital projects, based on recent experiences with the planning and consultation of major and minor capital works across the region. Gippsland Water has determined projects under $10m will generally follow a three year planning and consultation timeline, while projects with a capital expenditure profile in excess of $10m will generally follow a five year planning and consultation timeline. These timelines, including estimations for each activity listed are shown graphically in Table 76 and Table 77:

Table 76: Typical Planning Timeline for projects under $10m

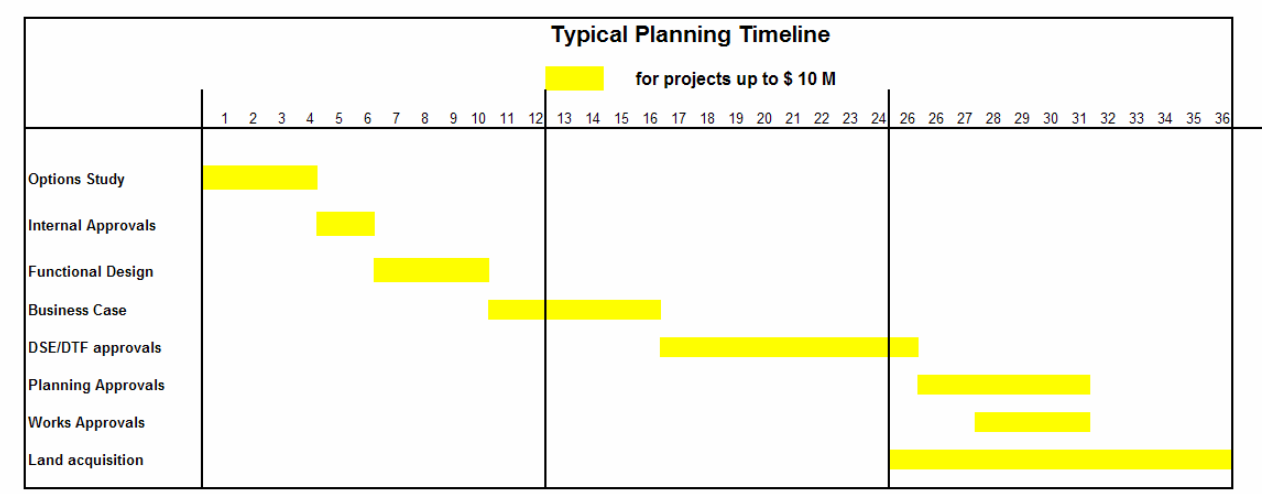
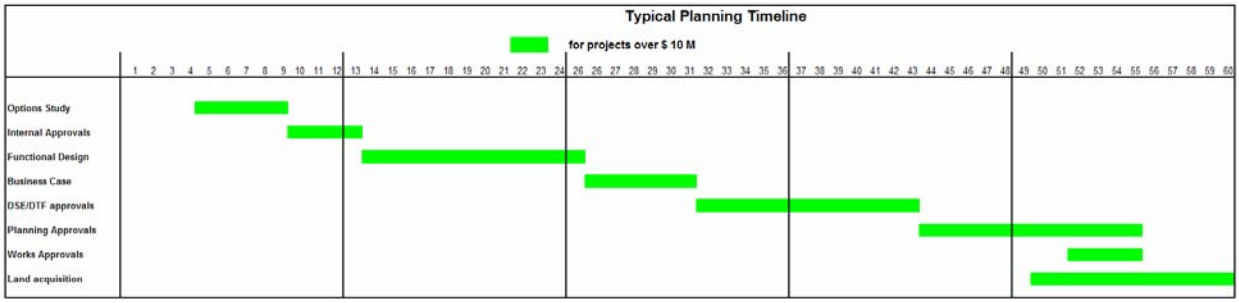


Table 77: Typical Planning Timeline for projects over $10m



Availability of Skilled Resources

In developing the capital spend profile outlined at 5.3.1, Gippsland Water has been cognisant of the need to ensure that both internal resources, and those of supporting organisations such and Consultants and Contractors would exist. After consultation and consideration of the profile developed for this Water Plan, Gippsland Water is confident that the resource base in both Gippsland and Melbourne will be sufficient to meet the profile and timing assumed for the capital expenditure plan. In this instance Gippsland Water has taken particular care to consider the drain of resources that major water infrastructure such as the Gippsland Water Factory, and other regional initiatives such as the Superpipe project to service Ballarat and Bendigo will have.

Estimate Accuracy

Gippsland Water has considered at length the need to determine a level of estimate accuracy for works included in the Water Plan. Many projects within the Plan are yet to be subjected to any level of scrutiny that a reasonable basis for estimation could be based on. The implication for tariffs that could result from poor estimation are sufficient reason to adopt a careful approach in this area. Table 78 details the solution stages which Gippsland Water has applied to each capital project, the assumed cost estimate accuracy, and the probability that the actual cost of the project will be less than the estimate.

Table 78: Basis of capital cost estimates

Solution Stage at which latest Cost Estimate has been taken		Assumed Cost Estimate Accuracy	Probability that actual cost is less than estimate	Estimate Probability	Multiplication factor for converting current estimate to P_{95} estimate
A	Idea Generation	+/- 100 %	10 %	P_{10}	X 2.00
B	Options Study	+/- 50 %	20 %	P_{20}	X 1.50
C	Functional Design	+/- 30 %	50 %	P_{50}	X 1.30
D	Detail Design	+/- 15 %	70 %	P_{70}	X 1.15
E	Tender Strategy	+/- 10 %	95 %	P_{95}	X 1.10

Gippsland Water has chosen for the purposes of this Water Plan to utilise P50 estimates for all projects, rather than to proceed with the more certain P70 or P95 probabilities. Gippsland Water believes that while this approach introduces some element of risk in estimating individual projects, the overall funding required at a P50 level will provide sufficient funding to allow Gippsland water to manage individual project variations from the P50 estimates.

Gippsland Water has calculated the additional capital expenditure impacts of moving to both P70 and P95 estimates. To move from the P50 based profile to a P95 profile would increase the capital expenditure requirement by $32m.

Fall of Expenditure

The estimated fall of expenditure for all projects, large or small, is another significant issue given the funding and tariff implications that may result from incorrectly determining project rollouts. Gippsland Water has determined that the fall of expenditure will vary with the size of the capital project. Based on recent evidence, Gippsland Water has developed and applied the fall of expenditure to all projects, based on the details in Table 79.

Table 79: Fall of expenditure for Water Plan projects

Project	Lower Limit	Upper Limit	Duration of project	% of Total Project Expenditure by Year							
				Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Small	$ -	$ 500,000	3	15.0%	75.0%	10.0%					
Medium	$ 500,000	$ 3,000,000	4	3.0%	12.0%	75.0%	10.0%				
Large	$ 3,000,000	$ 10,000,000	6	1.0%	2.0%	12.0%	40.0%	40.0%	5.0%		
Mega	$ 10,000,000	$ 100,000,000	8	0.5%	0.5%	1.0%	1.0%	12.0%	40.0%	40.0%	5.0%

Planning Phase Delivery Phase

APPENDIX 7 : DEMAND FORECAST BY TOWN/SYSTEM AND TARIFF

APPENDIX 7.1: DEMAND FORECAST BY TARIFF

		2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-2010	2010-11	2011-12	2012-13
Water - Residential											
Service Availability Charge											
WS10	No Connection	2,690	2,900	3,044	3,044	3,044	3,044	3,044	3,044	3,044	3,044
WS11	20mm Connection	49,804	50,570	51,629	51,884	52,390	52,918	53,459	53,987	54,511	55,034
WS12	25mm Connection	663	662	1,044	1,044	1,044	1,044	1,044	1,044	1,044	1,044
WS13	32mm Connection	14	13	44	44	44	44	44	44	44	44
WS14	40mm Connection	11	12	14	14	14	14	14	14	14	14
WS15	50mm Connection	8	10	14	14	14	14	14	14	14	14
WS16	75mm Connection	1	1	1	1	1	1	1	1	1	1
WS17	80mm Connection	2	2	2	2	2	2	2	2	2	2
WS18	100mm Connection	1	1	1	1	1	1	1	1	1	1
WS19	150mm Connection	0	0	0	0	0	0	0	0	0	0
	Total	53,194	54,171	55,793	56,048	56,554	57,082	57,623	58,151	58,675	59,198
WU10	Total kilolitres - Treated Water	10,722,748	10,736,379	11,161,365	11,018,091	10,756,303	10,498,385	10,244,323	9,994,102	9,748,967	9,509,199
	Average Consumption - per connection/per year	230	210	212	207	200	193	187	180	174	169
Water - Non Residential											
Service Availability Charge											
WS50	No Connection	50	113	55	55	55	55	55	55	55	55
WS51	20mm Connection	4,487	4,383	4,539	4,552	4,576	4,600	4,624	4,648	4,671	4,694
WS52	25mm Connection	370	378	452	451	451	451	451	451	451	451
WS53	32mm Connection	146	153	156	156	156	156	156	156	156	156
WS54	40mm Connection	134	139	159	159	159	159	159	159	159	159
WS55	50mm Connection	125	132	149	149	149	149	149	149	149	149
WS56	75mm Connection	14	14	8	8	8	8	8	8	8	8
WS57	80mm Connection	38	39	42	42	42	42	42	42	42	42
WS58	100mm Connection	36	37	38	38	38	38	38	38	38	38
WS59	150mm Connection	2	2	1	1	1	1	1	1	1	1
	Total	5,402	5,390	5,599	5,611	5,635	5,659	5,683	5,707	5,730	5,753
WU50	Total kilolitres - Treated Water	2,642,200	2,429,500	2,540,121	2,730,443	2,741,194	2,751,945	2,762,695	2,773,021	2,783,347	2,793,673
	Average Consumption - per connection/per year	511	494	458	490	490	490	490	490	490	489
Fire Services											
FS51	20mm Connection	138	158	161	159	159	159	159	159	159	159
FS52	25mm Connection	61	69	71	74	76	78	80	82	84	86
FS53	32mm Connection	57	57	53	56	56	56	56	56	56	56
FS54	40mm Connection	39	41	41	41	41	41	41	41	41	41
FS55	50mm Connection	346	362	378	384	390	396	402	408	414	420
FS56	75mm Connection	12	14	14	12	12	12	12	12	12	12
FS57	80mm Connection	523	526	526	517	517	517	517	517	517	517
FS58	100mm Connection	156	183	193	206	209	212	215	218	221	224
FS59	150mm Connection	12	13	13	13	13	13	13	13	13	13
	Total	1,344	1,423	1,450	1,462	1,473	1,484	1,495	1,506	1,517	1,528
Waste - Residential											
Service Availability Charge											
SS11	Connected Properties	43,021	43,667	44,939	45,152	45,574	46,180	46,796	47,235	47,722	48,366
SS14	Non Connected Properties	2,203	2,612	2,535	2,535	2,535	2,535	2,535	2,535	2,535	2,535
Waste - Non Residential											
Service Availability Charge											
SS51	Connected Properties	4,781	4,799	4,842	4,854	4,876	4,898	4,919	4,939	4,959	4,979
SS54	Non Connected Properties	53	125	78	78	78	78	78	78	78	78
SDC5	Total kilolitres Waste Water - Charge based on water consumption. First 300kl free of SDC	709,733	703,089	890,710	837,375	840,672	843,969	847,266	850,433	853,599	856,766
	Wastewater Volumetric Factor	26.86%	28.94%	35.07%	30.67%	30.67%	30.67%	30.67%	30.67%	30.67%	30.67%
Water Service Charge - Connected											
	Residential	50,504	51,271	52,749	53,004	53,510	54,038	54,579	55,107	55,631	56,154
	Non Residential	5,352	5,277	5,544	5,556	5,580	5,604	5,628	5,652	5,675	5,698
	Total	55,856	56,548	58,293	58,560	59,090	59,642	60,207	60,759	61,306	61,852
Water Service Charge - Non Connected											
	Residential	2,690	2,900	3,044	3,044	3,044	3,044	3,044	3,044	3,044	3,044
	Non Residential	50	113	55	55	55	55	55	55	55	55
	Total	2,740	3,013	3,099	3,099	3,099	3,099	3,099	3,099	3,099	3,099
Wastewater Service Charge - Connected											
	Residential	43,021	43,667	44,939	45,152	45,574	46,180	46,796	47,235	47,722	48,366
	Non Residential	4,781	4,799	4,842	4,854	4,876	4,898	4,919	4,939	4,959	4,979
	Total	47,802	48,466	49,781	50,005	50,450	51,077	51,714	52,174	52,681	53,345
Wastewater Service Charge - Non Connected											
	Residential	2,203	2,612	2,535	2,535	2,535	2,535	2,535	2,535	2,535	2,535
	Non Residential	53	125	78	78	78	78	78	78	78	78
	Total	2,256	2,737	2,613	2,613	2,613	2,613	2,613	2,613	2,613	2,613

APPENDIX 7.2 DEMAND FORECAST – WATER SERVICE CHARGE

		Number of Properties										
		Actuals				Forecast						
		2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Boolarra	Number of Residential Properties - Connected	256	263	267	277	280	283	287	290	294	297	301
	Number of Residential Properties - Non Connected	52	44	42	36	36	36	36	36	36	36	36
	Total Number of Residential Properties	308	307	309	313	316	319	323	326	330	333	337
	Number of Non Residential Properties - Connected	30	28	25	27	27	27	27	27	27	27	27
	Number of Non Residential Properties - Non Connected	0	0	0	0	0	0	0	0	0	0	0
	Total Number of Non Residential Properties	30	28	25	27	27	27	27	27	27	27	27
	Boolarra Total	**338**	**335**	**334**	**340**	**343**	**346**	**350**	**353**	**357**	**360**	**364**
Briagolong	Number of Residential Properties - Connected	239	254	258	263	265	268	270	272	275	277	279
	Number of Residential Properties - Non Connected	76	85	86	84	84	84	84	84	84	84	84
	Total Number of Residential Properties	315	339	344	347	349	352	354	356	359	361	363
	Number of Non Residential Properties - Connected	19	20	21	21	21	21	21	21	21	21	21
	Number of Non Residential Properties - Non Connected	1	1	1	1	1	1	1	1	1	1	1
	Total Number of Non Residential Properties	20	21	22	22	22	22	22	22	22	22	22
	Briagolong Total	**335**	**360**	**366**	**369**	**371**	**374**	**376**	**378**	**381**	**383**	**385**
Erica Rawson	Number of Residential Properties - Connected	263	271	271	276	278	281	284	286	289	292	294
	Number of Residential Properties - Non Connected	28	26	28	26	26	26	26	26	26	26	26
	Total Number of Residential Properties	291	297	299	302	304	307	310	312	315	318	320
	Number of Non Residential Properties - Connected	33	36	35	39	39	39	39	39	39	39	39
	Number of Non Residential Properties - Non Connected	1	1	2	1	1	1	1	1	1	1	1
	Total Number of Non Residential Properties	34	37	37	40	40	40	40	40	40	40	40
	Erica Rawson Total	**325**	**334**	**336**	**342**	**344**	**347**	**350**	**352**	**355**	**358**	**360**
Coongulla Glenmaggie	Number of Residential Properties - Connected	360	366	369	373	376	379	382	386	389	392	395
	Number of Residential Properties - Non Connected	113	106	104	101	101	101	101	101	101	101	101
	Total Number of Residential Properties	473	472	473	474	477	480	483	487	490	493	496
	Number of Non Residential Properties - Connected	9	9	8	9	9	9	9	9	9	9	9
	Number of Non Residential Properties - Non Connected	1	1	1	0	0	0	0	0	0	0	0
	Total Number of Non Residential Properties	10	10	9	9	9	9	9	9	9	9	9
	Coongulla Glenmaggie Total	**483**	**482**	**482**	**483**	**486**	**489**	**492**	**496**	**499**	**502**	**505**

		Number of Properties										
		Actuals				Forecast						
		2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Heyfield	Number of Residential Properties - Connected	747	760	768	778	784	791	798	804	811	817	823
	Number of Residential Properties - Non Connected	66	68	65	77	77	77	77	77	77	77	77
	Total Number of Residential Properties	813	828	833	855	861	868	875	881	888	894	900
	Number of Non Residential Properties - Connected	109	107	101	108	108	108	108	108	108	108	108
	Number of Non Residential Properties - Non Connected	3	3	3	5	5	5	5	5	5	5	5
	Total Number of Non Residential Properties	112	110	104	113	113	113	113	113	113	113	113
	Heyfield Total	**925**	**938**	**937**	**968**	**974**	**981**	**988**	**994**	**1001**	**1007**	**1013**
Honeysuckles	Number of Residential Properties - Connected	0	0	0	0	0	0	0	0	0	0	0
	Number of Residential Properties - Non Connected	0	0	0	0	0	0	0	0	0	0	0
	Total Number of Residential Properties	0	0	0	0	0	0	0	0	0	0	0
	Number of Non Residential Properties - Connected	0	0	0	0	0	0	0	0	0	0	0
	Number of Non Residential Properties - Non Connected	0	0	0	0	0	0	0	0	0	0	0
	Total Number of Non Residential Properties	0	0	0	0	0	0	0	0	0	0	0
	Honeysuckles Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Maffra Stratford	Number of Residential Properties - Connected	2536	2562	2615	2681	2703	2725	2749	2772	2794	2816	2837
	Number of Residential Properties - Non Connected	98	121	135	135	135	135	135	135	135	135	135
	Total Number of Residential Properties	2634	2683	2750	2816	2838	2860	2884	2907	2929	2951	2972
	Number of Non Residential Properties - Connected	286	284	273	297	297	297	297	297	297	297	297
	Number of Non Residential Properties - Non Connected	5	4	5	7	7	7	7	7	7	7	7
	Total Number of Non Residential Properties	291	288	278	304	304	304	304	304	304	304	304
	Maffra Stratford Total	**2925**	**2971**	**3028**	**3120**	**3142**	**3164**	**3188**	**3211**	**3233**	**3255**	**3276**
Mirboo North	Number of Residential Properties - Connected	617	630	638	652	661	670	680	690	700	709	719
	Number of Residential Properties - Non Connected	67	61	59	58	58	58	58	58	58	58	58
	Total Number of Residential Properties	684	691	697	710	719	728	738	748	758	767	777
	Number of Non Residential Properties - Connected	86	86	79	84	85	86	87	88	89	90	91
	Number of Non Residential Properties - Non Connected	0	0	0	0	0	0	0	0	0	0	0
	Total Number of Non Residential Properties	86	86	79	84	85	86	87	88	89	90	91
	Mirboo North Total	**770**	**777**	**776**	**794**	**804**	**814**	**825**	**836**	**847**	**857**	**868**

		Number of Properties										
		Actuals				Forecast						
		2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Moe	Number of Residential Properties - Connected	9495	9535	9607	9811	9853	9893	9939	9978	10016	10050	10084
	Number of Residential Properties - Non Connected	349	318	168	440	440	440	440	440	440	440	440
	Total Number of Residential Properties	9844	9853	9775	10251	10293	10333	10379	10418	10456	10490	10524
	Number of Non Residential Properties - Connected	779	798	794	822	822	822	822	822	822	822	822
	Number of Non Residential Properties - Non Connected	5	4	4	2	2	2	2	2	2	2	2
	Total Number of Non Residential Properties	784	802	798	824	824	824	824	824	824	824	824
	Moe Total	**10628**	**10655**	**10573**	**11075**	**11117**	**11157**	**11203**	**11242**	**11280**	**11314**	**11348**
Morwell Churchill Yinnar Hazelwood North	Number of Residential Properties - Connected	9530	9633	9714	9844	9856	9863	9877	9885	9891	9896	9904
	Number of Residential Properties - Non Connected	369	397	428	428	428	428	428	428	428	428	428
	Total Number of Residential Properties	9899	10030	10142	10272	10284	10291	10305	10313	10319	10324	10332
	Number of Non Residential Properties - Connected	988	1039	1028	1070	1070	1070	1070	1070	1070	1070	1070
	Number of Non Residential Properties - Non Connected	10	7	13	12	12	12	12	12	12	12	12
	Total Number of Non Residential Properties	998	1046	1041	1082	1082	1082	1082	1082	1082	1082	1082
	Morwell Churchill Yinnar Hazelwood North Total	**10897**	**11076**	**11183**	**11354**	**11366**	**11373**	**11387**	**11395**	**11401**	**11406**	**11414**
Traralgon	Number of Residential Properties - Connected	9235	9498	9679	10067	10221	10376	10541	10705	10868	11031	11196
	Number of Residential Properties - Non Connected	220	390	489	451	451	451	451	451	451	451	451
	Total Number of Residential Properties	9455	9888	10168	10518	10672	10827	10992	11156	11319	11482	11647
	Number of Non Residential Properties - Connected	931	937	938	966	974	982	990	998	1005	1012	1019
	Number of Non Residential Properties - Non Connected	12	15	54	12	12	12	12	12	12	12	12
	Total Number of Non Residential Properties	943	952	992	978	986	994	1002	1010	1017	1024	1031
	Traralgon Total	**10398**	**10840**	**11160**	**11496**	**11658**	**11821**	**11994**	**12166**	**12336**	**12506**	**12678**
Tyers Rosedale Glengarry Toongabbie	Number of Residential Properties - Connected	1631	1668	1694	1739	1752	1766	1782	1797	1811	1825	1839
	Number of Residential Properties - Non Connected	149	156	150	135	135	135	135	135	135	135	135
	Total Number of Residential Properties	1780	1824	1844	1874	1887	1901	1917	1932	1946	1960	1974
	Number of Non Residential Properties - Connected	138	139	140	150	150	150	150	150	150	150	150
	Number of Non Residential Properties - Non Connected	1	1	1	0	0	0	0	0	0	0	0
	Total Number of Non Residential Properties	139	140	141	150	150	150	150	150	150	150	150
	Tyers Rosedale Glengarry Toongabbie Total	**1919**	**1964**	**1985**	**2024**	**2037**	**2051**	**2067**	**2082**	**2096**	**2110**	**2124**

		Number of Properties										
		Actuals				Forecast						
		2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Sale	Number of Residential Properties - Connected	5777	5838	5891	6112	6165	6217	6276	6331	6386	6441	6495
	Number of Residential Properties - Non Connected	124	110	167	170	170	170	170	170	170	170	170
	Total Number of Residential Properties	5901	5948	6058	6282	6335	6387	6446	6501	6556	6611	6665
	Number of Non Residential Properties - Connected	664	742	711	770	771	772	773	774	775	776	777
	Number of Non Residential Properties - Non Connected	4	6	7	4	4	4	4	4	4	4	4
	Total Number of Non Residential Properties	668	748	718	774	775	776	777	778	779	780	781
	Sale Total	**6569**	**6696**	**6776**	**7056**	**7110**	**7163**	**7223**	**7279**	**7335**	**7391**	**7446**
Seaspray	Number of Residential Properties - Connected	302	308	309	311	313	315	318	320	322	324	326
	Number of Residential Properties - Non Connected	37	35	34	34	34	34	34	34	34	34	34
	Total Number of Residential Properties	339	343	343	345	347	349	352	354	356	358	360
	Number of Non Residential Properties - Connected	11	11	11	12	12	12	12	12	12	12	12
	Number of Non Residential Properties - Non Connected	0	0	0	0	0	0	0	0	0	0	0
	Total Number of Non Residential Properties	11	11	11	12	12	12	12	12	12	12	12
	Seaspray Total	**350**	**354**	**354**	**357**	**359**	**361**	**364**	**366**	**368**	**370**	**372**
Warragul Drouin Nilma	Number of Residential Properties - Connected	7902	8188	8468	8816	8987	9160	9344	9527	9712	9897	10084
Darnum	Number of Residential Properties - Non Connected	226	695	855	764	764	764	764	764	764	764	764
	Total Number of Residential Properties	8128	8883	9323	9580	9751	9924	10108	10291	10476	10661	10848
	Number of Non Residential Properties - Connected	1107	1018	1017	1075	1088	1101	1114	1127	1140	1153	1166
	Number of Non Residential Properties - Non Connected	6	6	19	8	8	8	8	8	8	8	8
	Total Number of Non Residential Properties	1113	1024	1036	1083	1096	1109	1122	1135	1148	1161	1174
	Warragul Drouin Nilma Darnum Total	**9241**	**9907**	**10359**	**10663**	**10847**	**11033**	**11230**	**11426**	**11624**	**11822**	**12022**
Neerim South Noojee	Number of Residential Properties - Connected	474	503	526	548	559	569	581	592	604	615	627
	Number of Residential Properties - Non Connected	47	57	70	87	87	87	87	87	87	87	87
	Total Number of Residential Properties	521	560	596	635	646	656	668	679	691	702	714
	Number of Non Residential Properties - Connected	63	66	67	65	66	67	68	69	70	71	72
	Number of Non Residential Properties - Non Connected	2	2	2	2	2	2	2	2	2	2	2
	Total Number of Non Residential Properties	65	68	69	67	68	69	70	71	72	73	74
	Neerim South Noojee Total	**586**	**628**	**665**	**702**	**714**	**725**	**738**	**750**	**763**	**775**	**788**

		Number of Properties										
		Actuals				Forecast						
		2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Thorpdale	Number of Residential Properties - Connected	72	72	70	70	71	71	72	73	73	74	75
	Number of Residential Properties - Non Connected	5	5	5	6	6	6	6	6	6	6	6
	Total Number of Residential Properties	77	77	75	76	77	77	78	79	79	80	81
	Number of Non Residential Properties - Connected	17	17	19	19	19	19	19	19	19	19	19
	Number of Non Residential Properties - Non Connected	0	0	1	1	1	1	1	1	1	1	1
	Total Number of Non Residential Properties	17	17	20	20	20	20	20	20	20	20	20
	Thorpdale Total	**94**	**94**	**95**	**96**	**97**	**97**	**98**	**99**	**99**	**100**	**101**
Willowgrove	Number of Residential Properties - Connected	124	126	127	131	132	133	135	136	137	138	140
	Number of Residential Properties - Non Connected	18	16	15	12	12	12	12	12	12	12	12
	Total Number of Residential Properties	142	142	142	143	144	145	147	148	149	150	152
	Number of Non Residential Properties - Connected	9	10	10	10	10	10	10	10	10	10	10
	Number of Non Residential Properties - Non Connected	0	0	0	0	0	0	0	0	0	0	0
	Total Number of Non Residential Properties	9	10	10	10	10	10	10	10	10	10	10
	Willowgrove Total	**151**	**152**	**152**	**153**	**154**	**155**	**157**	**158**	**159**	**160**	**162**
Total	Number of Residential Properties - Connected	49560	50475	51271	52749	53258	53763	54314	54844	55370	55892	56417
	Number of Residential Properties - Non Connected	2044	2690	2900	3044	3044	3044	3044	3044	3044	3044	3044
	Total Number of Residential Properties	51604	53165	54171	55793	56302	56807	57358	57888	58414	58936	59461
	Number of Non Residential Properties - Connected	5279	5347	5277	5544	5568	5592	5616	5640	5663	5686	5709
	Number of Non Residential Properties - Non Connected	51	51	113	55	55	55	55	55	55	55	55
	Total Number of Non Residential Properties	5330	5398	5390	5599	5623	5647	5671	5695	5718	5741	5764
	Grand Total	**56934**	**58563**	**59561**	**61392**	**61925**	**62454**	**63029**	**63583**	**64132**	**64677**	**65225**

APPENDIX 7.3 DEMAND FORECAST – WASTEWATER SERVICE CHARGE

		No. of Properties										
		Actual				Forecast						
		2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Boolarra	Number of Residential Properties - Connected	213	219	224	232	235	237	240	243	246	249	252
	Number of Residential Properties - Non Connected	48	47	36	31	31	31	31	31	31	31	31
	Total Number of Residential Properties	261	266	260	263	266	268	271	274	277	280	283
	Number of Non Residential Properties - Connected	21	21	21	21	21	21	21	21	21	21	21
	Number of Non Residential Properties - Non Connected	0	0	0	0	0	0	0	0	0	0	0
	Total Number of Non Residential Properties	21	21	21	21	21	21	21	21	21	21	21
	Boolarra Total	**282**	**287**	**281**	**284**	**287**	**289**	**292**	**295**	**298**	**301**	**304**
Churchill	Number of Residential Properties - Connected	1866	1870	1880	1894	1896	1898	1900	1902	1903	1904	1905
	Number of Residential Properties - Non Connected	123	124	158	152	152	152	152	152	152	152	152
	Total Number of Residential Properties	1989	1994	2038	2046	2048	2050	2052	2054	2055	2056	2057
	Number of Non Residential Properties - Connected	83	86	89	85	85	85	85	85	85	85	85
	Number of Non Residential Properties - Non Connected	0	0	0	0	0	0	0	0	0	0	0
	Total Number of Non Residential Properties	83	86	89	85	85	85	85	85	85	85	85
	Churchill Total	**2072**	**2080**	**2127**	**2131**	**2133**	**2135**	**2137**	**2139**	**2140**	**2141**	**2142**
Coongulla/Glenmaggie	Number of Residential Properties - Connected	0	0	0	0	0	0	0	0	0	0	317
	Number of Residential Properties - Non Connected	0	0	0	0	0	0	0	0	0	0	0
	Total Number of Residential Properties	0	0	0	0	0	0	0	0	0	0	317
	Number of Non Residential Properties - Connected	0	0	0	0	0	0	0	0	0	0	0
	Number of Non Residential Properties - Non Connected	0	0	0	0	0	0	0	0	0	0	0
	Total Number of Non Residential Properties	0	0	0	0	0	0	0	0	0	0	0
	Coongulla/Glenmaggie Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**317**
Drouin	Number of Residential Properties - Connected	2086	2254	2243	2371	2417	2464	2513	2562	2612	2662	2712
	Number of Residential Properties - Non Connected	38	161	317	285	285	285	285	285	285	285	285
	Total Number of Residential Properties	2124	2415	2560	2656	2702	2749	2798	2847	2897	2947	2997
	Number of Non Residential Properties - Connected	257	260	210	217	220	223	226	229	232	235	238
	Number of Non Residential Properties - Non Connected	2	2	6	3	3	3	3	3	3	3	3
	Total Number of Non Residential Properties	259	262	216	220	223	226	229	232	235	238	241
	Drouin Total	**2383**	**2677**	**2776**	**2876**	**2925**	**2975**	**3027**	**3079**	**3132**	**3185**	**3238**

		No. of Properties										
		Actual				Forecast						
		2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Glengarry	Number of Residential Properties - Connected	230	232	234	238	240	241	243	245	247	248	250
	Number of Residential Properties - Non Connected	18	20	17	14	14	14	14	14	14	14	14
	Total Number of Residential Properties	248	252	251	252	254	255	257	259	261	262	264
	Number of Non Residential Properties - Connected	11	11	11	11	11	11	11	11	11	11	11
	Number of Non Residential Properties - Non Connected	1	1	1	1	1	1	1	1	1	1	1
	Total Number of Non Residential Properties	12	12	12	12	12	12	12	12	12	12	12
	Glengarry Total	**260**	**264**	**263**	**264**	**266**	**267**	**269**	**271**	**273**	**274**	**276**
Heyfield	Number of Residential Properties - Connected	634	642	647	657	662	668	674	679	685	690	695
	Number of Residential Properties - Non Connected	41	48	43	52	52	52	52	52	52	52	52
	Total Number of Residential Properties	675	690	690	709	714	720	726	731	737	742	747
	Number of Non Residential Properties - Connected	92	92	85	85	85	85	85	85	85	85	85
	Number of Non Residential Properties - Non Connected	3	4	4	7	7	7	7	7	7	7	7
	Total Number of Non Residential Properties	95	96	89	92	92	92	92	92	92	92	92
	Heyfield Total	**770**	**786**	**779**	**801**	**806**	**812**	**818**	**823**	**829**	**834**	**839**
Loch Sport Honeysuckles	Number of Residential Properties - Connected	0	0	0	0	0	0	0	0	0	101	101
	Number of Residential Properties - Non Connected	0	0	0	0	0	0	0	0	0	0	0
	Total Number of Residential Properties	0	0	0	0	0	0	0	0	0	101	101
	Number of Non Residential Properties - Connected	0	0	0	0	0	0	0	0	0	0	0
	Number of Non Residential Properties - Non Connected	0	0	0	0	0	0	0	0	0	0	0
	Total Number of Non Residential Properties	0	0	0	0	0	0	0	0	0	0	0
	Loch Sport Honeysuckles Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**101**	**101**
Maffra	Number of Residential Properties - Connected	1715	1741	1766	1808	1823	1838	1854	1869	1884	1899	1913
	Number of Residential Properties - Non Connected	69	91	83	75	75	75	75	75	75	75	75
	Total Number of Residential Properties	1784	1832	1849	1883	1898	1913	1929	1944	1959	1974	1988
	Number of Non Residential Properties - Connected	196	196	195	197	197	197	197	197	197	197	197
	Number of Non Residential Properties - Non Connected	1	1	2	1	1	1	1	1	1	1	1
	Total Number of Non Residential Properties	197	197	197	198	198	198	198	198	198	198	198
	Maffra Total	**1981**	**2029**	**2046**	**2081**	**2096**	**2111**	**2127**	**2142**	**2157**	**2172**	**2186**

		No. of Properties										
		Actual				Forecast						
		2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Mirboo North	Number of Residential Properties - Connected	451	458	464	473	480	486	493	501	507	514	522
	Number of Residential Properties - Non Connected	59	57	55	58	58	58	58	58	58	58	58
	Total Number of Residential Properties	510	515	519	531	538	544	551	559	565	572	580
	Number of Non Residential Properties - Connected	78	78	72	73	74	75	76	77	77	77	77
	Number of Non Residential Properties - Non Connected	0	0	1	1	1	1	1	1	1	1	1
	Total Number of Non Residential Properties	78	78	73	74	75	76	77	78	78	78	78
	Mirboo North Total	**588**	**593**	**592**	**605**	**613**	**620**	**628**	**637**	**643**	**650**	**658**
Moe Newborough Trafalgar Yarragon	Number of Residential Properties - Connected	8375	8412	8462	8586	8623	8658	8698	8733	8765	8796	8825
	Number of Residential Properties - Non Connected	372	392	395	455	455	455	455	455	455	455	455
	Total Number of Residential Properties	8747	8804	8857	9041	9078	9113	9153	9188	9220	9251	9280
	Number of Non Residential Properties - Connected	705	714	717	725	725	725	725	725	725	725	725
	Number of Non Residential Properties - Non Connected	2	4	9	7	7	7	7	7	7	7	7
	Total Number of Non Residential Properties	707	718	726	732	732	732	732	732	732	732	732
	Moe Newborough Trafalgar Yarragon Total	**9454**	**9522**	**9583**	**9773**	**9810**	**9845**	**9885**	**9920**	**9952**	**9983**	**10012**
Morwell	Number of Residential Properties - Connected	6342	6366	6424	6514	6522	6527	6536	6541	6545	6549	6554
	Number of Residential Properties - Non Connected	179	220	224	232	232	232	232	232	232	232	232
	Total Number of Residential Properties	6521	6586	6648	6746	6754	6759	6768	6773	6777	6781	6786
	Number of Non Residential Properties - Connected	822	829	876	889	889	889	889	889	889	889	889
	Number of Non Residential Properties - Non Connected	7	8	13	13	13	13	13	13	13	13	13
	Total Number of Non Residential Properties	829	837	889	902	902	902	902	902	902	902	902
	Morwell Total	**7350**	**7423**	**7537**	**7648**	**7656**	**7661**	**7670**	**7675**	**7679**	**7683**	**7688**
Neerim South Noojee	Number of Residential Properties - Connected	199	205	220	232	237	241	246	251	256	260	265
	Number of Residential Properties - Non Connected	34	47	60	65	65	65	65	65	65	65	65
	Total Number of Residential Properties	233	252	280	297	302	306	311	316	321	325	330
	Number of Non Residential Properties - Connected	44	45	42	42	43	44	45	46	47	48	49
	Number of Non Residential Properties - Non Connected	1	1	3	1	1	1	1	1	1	1	1
	Total Number of Non Residential Properties	45	46	45	43	44	45	46	47	48	49	50
	Neerim South Noojee Total	**278**	**298**	**325**	**340**	**346**	**351**	**357**	**363**	**369**	**374**	**380**

		No. of Properties										
		Actual				Forecast						
		2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Rawson	Number of Residential Properties - Connected	135	135	135	138	139	141	142	143	145	146	147
	Number of Residential Properties - Non Connected	21	22	21	21	21	21	21	21	21	21	21
	Total Number of Residential Properties	156	157	156	159	160	162	163	164	166	167	168
	Number of Non Residential Properties - Connected	13	15	15	16	16	16	16	16	16	16	16
	Number of Non Residential Properties - Non Connected	0	0	1	0	0	0	0	0	0	0	0
	Total Number of Non Residential Properties	13	15	16	16	16	16	16	16	16	16	16
	Rawson Total	**169**	**172**	**172**	**175**	**176**	**178**	**179**	**180**	**182**	**183**	**184**
Rosedale	Number of Residential Properties - Connected	423	433	442	454	457	460	464	467	470	473	476
	Number of Residential Properties - Non Connected	78	86	77	69	69	69	69	69	69	69	69
	Total Number of Residential Properties	501	519	519	523	526	529	533	536	539	542	545
	Number of Non Residential Properties - Connected	57	57	58	63	63	63	63	63	63	63	63
	Number of Non Residential Properties - Non Connected	1	1	2	1	1	1	1	1	1	1	1
	Total Number of Non Residential Properties	58	58	60	64	64	64	64	64	64	64	64
	Rosedale Total	**559**	**577**	**579**	**587**	**590**	**593**	**597**	**600**	**603**	**606**	**609**
Sale	Number of Residential Properties - Connected	5492	5552	5613	5798	5848	5898	5953	6006	6058	6110	6161
	Number of Residential Properties - Non Connected	138	161	133	101	101	101	101	101	101	101	101
	Total Number of Residential Properties	5630	5713	5746	5899	5949	5999	6054	6107	6159	6211	6262
	Number of Non Residential Properties - Connected	641	647	687	694	695	696	697	698	699	700	701
	Number of Non Residential Properties - Non Connected	7	7	13	10	10	10	10	10	10	10	10
	Total Number of Non Residential Properties	648	654	700	704	705	706	707	708	709	710	711
	Sale Total	**6278**	**6367**	**6446**	**6603**	**6654**	**6705**	**6761**	**6815**	**6868**	**6921**	**6973**
Seaspray	Number of Residential Properties - Connected	0	0	0	0	0	0	330	330	330	330	330
	Number of Residential Properties - Non Connected	0	0	0	0	0	0	0	0	0	0	0
	Total Number of Residential Properties	0	0	0	0	0	0	330	330	330	330	330
	Number of Non Residential Properties - Connected	0	0	0	0	0	0	0	0	0	0	0
	Number of Non Residential Properties - Non Connected	0	0	0	0	0	0	0	0	0	0	0
	Total Number of Non Residential Properties	0	0	0	0	0	0	0	0	0	0	0
	Seaspray Total	**0**	**0**	**0**	**0**	**0**	**0**	**330**	**330**	**330**	**330**	**330**

		No. of Properties										
		Actual				Forecast						
		2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Stratford	Number of Residential Properties - Connected	548	549	551	561	566	571	576	581	586	591	596
	Number of Residential Properties - Non Connected	28	30	28	49	49	49	49	49	49	49	49
	Total Number of Residential Properties	576	579	579	610	615	620	625	630	635	640	645
	Number of Non Residential Properties - Connected	63	64	65	66	66	66	66	66	66	66	66
	Number of Non Residential Properties - Non Connected	1	1	2	3	3	3	3	3	3	3	3
	Total Number of Non Residential Properties	64	65	67	69	69	69	69	69	69	69	69
	Stratford Total	**640**	**644**	**646**	**679**	**684**	**689**	**694**	**699**	**704**	**709**	**714**
Toongabbie	Number of Residential Properties - Connected	153	154	158	163	165	167	169	171	173	175	177
	Number of Residential Properties - Non Connected	33	34	34	31	31	31	31	31	31	31	31
	Total Number of Residential Properties	186	188	192	194	196	198	200	202	204	206	208
	Number of Non Residential Properties - Connected	6	7	6	6	6	6	6	6	6	6	6
	Number of Non Residential Properties - Non Connected	0	0	1	1	1	1	1	1	1	1	1
	Total Number of Non Residential Properties	6	7	7	7	7	7	7	7	7	7	7
	Toongabbie Total	**192**	**195**	**199**	**201**	**203**	**205**	**207**	**209**	**211**	**213**	**215**
Traralgon	Number of Residential Properties - Connected	8649	8956	9098	9493	9639	9784	9940	10095	10248	10402	10558
	Number of Residential Properties - Non Connected	195	355	515	470	470	470	470	470	470	470	470
	Total Number of Residential Properties	8844	9311	9613	9963	10109	10254	10410	10565	10718	10872	11028
	Number of Non Residential Properties - Connected	946	947	918	918	926	934	941	948	955	962	969
	Number of Non Residential Properties - Non Connected	5	16	55	21	21	21	21	21	21	21	21
	Total Number of Non Residential Properties	951	963	973	939	947	955	962	969	976	983	990
	Traralgon Total	**9795**	**10274**	**10586**	**10902**	**11056**	**11209**	**11372**	**11534**	**11694**	**11855**	**12018**
Warragul	Number of Residential Properties - Connected	3948	4170	4271	4427	4513	4600	4692	4784	4877	4970	5064
	Number of Residential Properties - Non Connected	128	251	375	340	340	340	340	340	340	340	340
	Total Number of Residential Properties	4076	4421	4646	4767	4853	4940	5032	5124	5217	5310	5404
	Number of Non Residential Properties - Connected	702	704	675	679	688	696	704	712	720	728	736
	Number of Non Residential Properties - Non Connected	8	8	11	7	7	7	7	7	7	7	7
	Total Number of Non Residential Properties	710	712	686	686	695	703	711	719	727	735	743
	Warragul Total	**4786**	**5133**	**5332**	**5453**	**5548**	**5643**	**5743**	**5843**	**5944**	**6045**	**6147**

		No. of Properties										
		Actual				Forecast						
		2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Willow Grove	Number of Residential Properties - Connected	92	93	95	98	99	100	101	102	103	104	104
	Number of Residential Properties - Non Connected	20	20	17	13	13	13	13	13	13	13	13
	Total Number of Residential Properties	112	113	112	111	112	113	114	115	116	117	117
	Number of Non Residential Properties - Connected	7	7	7	7	7	7	7	7	7	7	7
	Number of Non Residential Properties - Non Connected	0	0	0	0	0	0	0	0	0	0	0
	Total Number of Non Residential Properties	7	7	7	7	7	7	7	7	7	7	7
	Willow Grove Total	**119**	**120**	**119**	**118**	**119**	**120**	**121**	**122**	**123**	**124**	**124**
Yallourn North	Number of Residential Properties - Connected	514	514	514	572	574	577	579	582	584	586	588
	Number of Residential Properties - Non Connected	7	8	9	10	10	10	10	10	10	10	10
	Total Number of Residential Properties	521	522	523	582	584	587	589	592	594	596	598
	Number of Non Residential Properties - Connected	30	30	30	30	30	30	30	30	30	30	30
	Number of Non Residential Properties - Non Connected	0	0	0	0	0	0	0	0	0	0	0
	Total Number of Non Residential Properties	30	30	30	30	30	30	30	30	30	30	30
	Yallourn North Total	**551**	**552**	**553**	**612**	**614**	**617**	**619**	**622**	**624**	**626**	**628**
Yinnar	Number of Residential Properties - Connected	224	225	226	230	230	230	231	231	231	231	231
	Number of Residential Properties - Non Connected	15	15	15	12	12	12	12	12	12	12	12
	Total Number of Residential Properties	239	240	241	242	242	242	243	243	243	243	243
	Number of Non Residential Properties - Connected	21	21	20	18	18	18	18	18	18	18	18
	Number of Non Residential Properties - Non Connected	0	0	1	1	1	1	1	1	1	1	1
	Total Number of Non Residential Properties	21	21	21	19	19	19	19	19	19	19	19
	Yinnar Total	**260**	**261**	**262**	**261**	**261**	**261**	**262**	**262**	**262**	**262**	**262**
Total	Number of Residential Properties - Connected	42289	43180	43667	44939	45364	45784	46575	47016	47454	47989	48743
	Number of Residential Properties - Non Connected	1644	2189	2612	2535	2535	2535	2535	2535	2535	2535	2535
	Total Number of Residential Properties	43933	45369	46279	47474	47899	48319	49110	49551	49989	50524	51278
	Number of Non Residential Properties - Connected	4795	4831	4799	4842	4865	4887	4908	4929	4949	4969	4989
	Number of Non Residential Properties - Non Connected	39	54	125	78	78	78	78	78	78	78	78
	Total Number of Non Residential Properties	4834	4885	4924	4920	4943	4965	4986	5007	5027	5047	5067
	Grand Total	**48767**	**50254**	**51203**	**52394**	**52842**	**53284**	**54096**	**54558**	**55016**	**55571**	**56345**

APPENDIX 7.4 DEMAND FORECAST – FIRE SERVICE CHARGE

	Actual			Forecast						
Fire Services Charge	**2003/04**	**2004/05**	**2005/06**	**2006/07**	**2007/08**	**2008/09**	**2009/10**	**2010/11**	**2011/12**	**2012/13**
Boolarra	1	1	1	1	1	1	1	1	1	1
Briagolong	-	-	-	-	-	-	-	-	-	-
Erica, Rawson	8	8	7	7	7	7	7	7	7	7
Coongulla, Glenmaggie	-	-	-	-	-	-	-	-	-	-
Heyfield	15	15	15	15	15	15	15	15	15	15
Honeysuckles	-	-	-	-	-	-	-	-	-	-
Mafra, Stradford	26	26	27	28	28	28	28	28	28	28
Mirboo North	3	4	4	5	5	5	5	5	5	5
Moe	151	151	153	150	150	150	150	150	150	150
Morwell, Churchill, Yinnar, Hazelwood North	357	359	369	372	372	372	372	372	372	372
Traralgon	319	327	334	334	337	340	343	346	349	352
Tyers, Rosedale, Glengarry, Toongabbie, Cowwarr	4	5	6	6	6	6	6	6	6	6
Sale	144	204	211	214	216	218	220	222	224	226
Seaspray	-	-	-							
Warragul, Drouin, Nilma, Darnum	310	317	317	324	330	336	342	348	354	360
Neerim South, Noojee	6	6	6	6	6	6	6	6	6	6
Thorpdale	-	-	-	-	-	-	-	-	-	-
Willowgrove	-	-	-	-	-	-	-	-	-	-
	1,344	1,423	1,450	1,462	1,473	1,484	1,495	1,506	1,517	1,528

APPENDIX 8: ESC TEMPLATES