WATER PLAN
2008 – 2013
UPDATED

February 2008

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1 EXECUTIVE SUMMARY

1.1 Introduction

Since the commencement of the two-year regulatory period of the 2006-2008 Water Plan, GWMWater's water supply capability has deteriorated appreciably, and this has impacted significantly on programs delivered throughout the first regulatory period.

Perhaps more significantly, it has impacted on the imperatives of the Wimmera Mallee Pipeline Project (WMPP). In recent times, the WMPP has moved beyond a water savings project and regional development initiative, to becoming an integral element of GWMWater's drought management strategy. The construction program for the project has been accelerated to further secure parts of the region that remain at risk from water supply scarcity.

A recently completed Program Review has concluded that the WMPP could be completed within three and a half years at a revised cost to complete of $688 Million. This Water Plan has been prepared on the basis of GWMWater's revised estimate of the final cost to complete the WMPP of $688 Million. A price path for the first year of the regulatory period was established for the 'Interim' 2008-13 Water Plan whilst the financing of the $248 Million 'Funding Gap' was resolved with the State and Federal governments.

The drought has given rise to reduced water allocations and escalated restrictions. The revenue that has been forgone as a consequence of the supply has compounded the impact of the increased cost of the WMPP.

The additional cost impact of the $248 Million WMPP 'funding gap' has been the subject of an affordability review. GWMWater undertook this review and PricewaterhouseCoopers undertook an independent review of this work. The PricewaterhouseCoopers review was commissioned by DSE and underpinned the Victorian government decision to contribute an additional $99 Million to the WMPP. This contribution was unconditional, but there was an expectation that this contribution be at least matched by the Federal government.

During the Federal election, both the Liberal and Labor government committed up to $124 Million toward the funding gap. GWMWater believes that there is sufficient strength in these commitments to formalise a revenue requirement across the five year period and has formally presented these in this 'updated' 2008-13 Water Plan.

The average increase of 17.1% nominal (14.3% real) for year one remains consistent with the 'interim' Water Plan. The revenue requirement being sought beyond the first year is 3.4% real with a form of price control being tariff basket within a revenue cap.

The additional funding has allowed GWMWater to retain the nucleus of its core program over the five-year period. The exception being Murrayville where GWMWater has acceded to the wishes of the community to maintain regulated water supply. This updated Water Plan has also reassessed the supply capability and demand for growth water under the WMPP.

1.2 Overview of Key Outcomes Over the Regulatory Period

The most significant outcome for GWMWater over the planning period will be the completion of the WMPP.

The improved water quality that will be an outcome of the WMPP will generally improve overall compliance with the Safe Drinking Water Regulations (SDWR) under the Safe Drinking Water Act 2003 (SDWA). Towns that have been identified as potentially requiring water quality upgrades will need to be assessed in accordance with the water quality outcomes of the WMPP.

WMPP aside, through the regulatory period water quality improvements will be provided in the towns of Nhill, Underbool, Lalbert, Ultima, Manangatang and Natimuk.

Substantial upgrades of wastewater treatment facilities are also programmed over the regulatory period. These generally have longer lead times as any investment is considered in the context of improved beneficial use of the downstream residuals from these facilities and the quality required for any such use. Improvements programmed include the Willaura winter storage and associated use of recycled water. New sewerage schemes in Lake Bolac, Great Western and Rupanyup are also proposed.

Service Standards are generally expected to improve over time. Operational performance in certain areas will be enhanced by the programmed investment in Supervisory Control and Data Acquisition (SCADA) infrastructure that will provide a greater opportunity to identify and provide more timely response issues with the system, and therefore reduce unplanned interruptions to supply.

GWMWater's GIS and asset management system will enable better identification and collection of information in relation to assets. As the knowledge of current assets improves, capital investment to renew assets will be increasingly targeted to priority areas identified on a risk management basis, ensuring efficiency in these investments.

1.3 Overview of Wimmera Mallee Pipeline

During the first regulatory period GWMWater commenced construction of the WMPP. The WMPP.

The WMPP will improve the security of supply to 96% for both urban and domestic and stock customers. It will also provide greater flexibility in meeting projected urban water supply requirements throughout much of the region.

The WMPP is an investment in regional water infrastructure. The project will provide a more reliable, higher quality water supply to farms and towns across the region. Rather than many properties and towns relying on a single channel run each year to supply their needs, the system will deliver a continuous supply of water 24 hours a day, 7 days a week.

The pipeline will result in an average of 83,000 ML per annum being returned to the Wimmera, Glenelg River and Murray River system. This is added to the environmental

entitlement of 35,000 ML per anum already generated by the Northern Mallee Pipeline (NMP). This will provide the Wimmera and Glenelg Rivers and their associated tributaries in excess of 100,000 ML per year on average.

Up to 20,000 ML per annum will be made available for regional development. The new system will also make available up to 3,000 ML per annum of water for recreational lakes in the region. A further allocation of 1,000 ML per annum of water to off-stream water bodies and wetlands, which is to be supplied through the new pipeline system, recognises the value of the range of habitats in the region.

The pipeline will replace 17,500 kilometres of open earthen channels with 8,800 kilometres of pipe. The system will reticulate water to an area of 2 Million hectares, including 33 urban towns.

Water savings resulting from the completion of the WMPP will change the operation of the 12 reservoirs that service the existing channel distribution system. While the primary purpose of the reservoirs is to ensure security of supply, it is recognised that they play a major role in the areas of tourism, the environment, recreation and flood mitigation.

1.4 Overview of Expenditure Forecasts

Capital expenditure dominates the expenditure outlook over the regulatory period with the most significant item being the WMPP.

When reviewing the 2006-2008 Water Plan on behalf of the Essential Services Commission (ESC), Sinclair Knight Merz (SKM) suggested that the unit cost rate information to support the cost estimates for the WMPP were lower than what the current market information suggested. Based on the tenders that have since been awarded, this has been confirmed and the total cost to complete the WMPP has been reassessed to reflect the current market position.

Through the Project Control Group and Project Council, a Program Review of the WMPP has been undertaken. The WMPP Program Review has identified that the revised cost to complete the project is $688 Million. Based on the original cost of $440 Million reflected in the Project Development Agreement (PDA), there is an estimated shortfall of $248 Million in the funding available for the project.

Capital Expenditure other than expenditure on the WMPP is $75.2 Million. This is a gross figure and does not adjust for any anticipated contributions from third parties for works.

Recurrent expenditure forecasts in this 2008-2013 Water Plan are premised on the achievement of an overall 1% productivity efficiency improvement over the course of the regulatory period. Expenditure on the WMPP, combined with the investment in SCADA, will substantially change the operating cost structure of GWMWater. There will however be some additional costs incurred as a consequence of service improvements in urban water and wastewater.

1.5 Overview of Revenue Requirement and Proposed Price Change

GWMWater is seeking a price increase of 17.1% nominal in the first year of the five-year regulatory period. This will allow sufficient revenue to be recovered over the five-year regulatory period based on the existing assumption of a $440m construction cost of the WMPP, other operating and capital costs for GWMWater and any anticipated revenue shortfalls arising from the first regulatory period.

Table 1.5.1: Specific Increases for Typical Customer Groups 2008-2009

Customer Group	2008/09 Price Increase % Nominal
Urban Water	18.2
Urban Wastewater	14.0
Rural Supply by Agreements	81.3
Rural Domestic and Stock #	
NMP Domestic and Stock (Pipe)	14.5
WMPP Domestic and Stock (Pipe)	14.5
WM Domestic and Stock (Channel)	5.0
Irrigation ##	36.0
Groundwater	6.0
Diversions	6.0
Bulk Water	12.0

\# *Channel supply customers to receive a lesser increase to align the price increase with the improved service of the WMPP.*

\## *Irrigation tariff will continue to be a drought tariff until water supply capability is restored. Revenue shortfalls will be recovered in subsequent years of the regulatory period.*

A review conducted by GWMWater has concluded that the cost to complete the WMPP will be $688 Million. This will produce a funding gap of $248 Million from the initial funding formula in the PDA. On the basis of commitments made by the Federal and State governments to fund an additional $223 Million toward the WMPP, GWMWater has sought an increase of 3.4% real on its overall revenue requirement in years 2 to 5. The form of price control being a tariff basket with the framework of an overall revenue cap.

1.6 Overview of Proposed Tariff Structure

The 2008-2013 Water Plan is premised on a substantial change to the rural tariff structure and a continued rationalization of the urban tariff structure.

The Rural Tariff Working Group (RTWG) has been working with GWMWater to develop a new tariff structure for rural activities. The new tariff has been developed with due regard to the possibility of extending unbundling to Domestic and Stock customers. If this were to eventuate, customers could then trade entitlement within the WMPP, therefore allowing the market to provide an efficient framework for the use of water.

The proposed pipeline tariff provides for a three-part tariff with an inclining block. The inclining block is aimed at rationalising demand within the capacity constraints of the WMPP. The three core elements of the charge are a capacity charge, service charge and a volumetric charge.

The rationalization of the urban tariff is to further align the charges and only provide for a differentiation where a differing level of service is provided. The water tariff will continue to be influenced by the quality of the water being provided and the size of the tapping. The wastewater tariff will be common to all customers with a volumetric and servicing component for minor trade waste customers.

A significant element of the Water Plan relates to a further refinement of the industry pricing policy. The WMPP has created capacity in the low demand periods that present mutual opportunities for GWMWater and its industrial customers to achieve pricing outcomes that will sustain and enhance opportunities for regional development.

An extensive program of customer consultation has underpinned the development of these pricing policies.

1.7 Overview of Customer Consultation

GWMWater regularly interfaces with the community in many and varied ways which is critical to its continued success. In developing the Water Plan, GWMWater has consulted widely with its customers on specific issues to be covered in the Water Plan.

Key issues recognised by customers during the Water Plan process has been in the area of pricing and water availability. To engage and consult customers on the main issues, GWMWater utilised the following special interest groups:

- Pipeline Community Reference Group;
- Reservoirs Review Stakeholder Working Group;
- Rural Tariff Working Group;
- Urban Pricing Group;
- Irrigation Development Committee;
- WMPP Landowner Liaison Group; and
- Drought Reference Committee.

The Water Plan Exposure Draft was formally issued to DSE and technical regulators through the exposure draft period. During this time the Water Plan was available on the website for review and its availability publicised by promotion through regional media releases, advertisements and stakeholder briefings.

Perhaps the most significant feedback received in relation to the Water Plan was the overwhelming support for the WMPP. This, however, was caveated by community concern as to the extent that the $248 Million 'funding gap' could be funded from within the region.

The price path beyond the first year of the regulatory period, however, has not been the subject of any consultative processes in the region. The release of this 'updated' Water Plan effectively initiates the consultative process for determining the level of support for the WMPP with a full understanding of the potential price implications.

GLOSSARY OF TERMS

ADWG	Australian Drinking Water Guidelines
ALCP	Asset Life Cycle Plan
AMP	Asset Management Plan
AMS	Asset Management System
ANCOLD	Australian National Committee on Large Dams
BGA	Blue Green Algae
BMP	Biosolids Management Plan
BOOT	Build, Own, Operate and Transfer
BE	Bulk Entitlement
CAG	Customer Advisory Group
CCTV	Closed Circuit Television
CCC	Customer Consultative Committee
CMA	Catchment Management Authority
CSO	Community Service Obligation
CTWSSP	Country Towns Water and Sewerage Scheme Program
D&S	Domestic and Stock
DHS	Department of Human Services
DSE	Department of Sustainability and Environment
DTF	Department of Treasury and Finance
EC	Exceptional Circumstances
EPA	Environment Protection Authority
EMP	Emergency Management Plan
EMS	Environmental Management System
ESC	Essential Services Commission
EWOV	Energy and Water Ombudsman of Victoria
GMP	Groundwater Management Plan
G-MW	Goulburn-Murray Water
GRWA	Grampians Region Water Authority
IMS	Integrated Management System
MJA	Marsden Jacob and Associates
NMP	Northern Mallee Pipeline
NTER	National Tax Equivalents Regime
OCC	Operational Control Centre
PCV	Permissible Consumptive Volumes
PDA	Project Delivery Agreement
PPG	Project Planning Group (WMPP)
RAB	Regulatory Asset Base
ROA	Return on Assets
ROE	Return on Equity
RTWG	Rural Tariff Working Group
RUWA	Regional Urban Water Authority
RWA	Rural Water Authorities
SAC	Service Availability Charge
SBA	Supply by Agreement

SCADA	Supervisory Control and Data Acquisition
SDWA	Safe Drinking Water Act
SDWR	Safe Drinking Water Regulations
SEPP	State Environment Protection Policy
SFMP	Streamflow Management Plan
SKM	Sinclair Knight Merz
SMP	Salinity Management Plan
SOO	Statement of Obligations
TCV	Treasury Corporation Victoria
TDS	Total Dissolved Solids
TER	Tax Equivalent Regime
THM	Trihalomethane
TWA	Trade Waste Agreement
UWSDS	Urban Water Supply Demand Strategy
VWIA	Victorian Water Industry Association
WHO	World Health Organisation
WIA	Wimmera Irrigation Area
WIRO	Water Industry Regulatory Order
WISP	Water Infrastructure and Services Plan (Draft)
WWMP	Wastewater Management Plan
WMPP	Wimmera Mallee Pipeline Project
WMW	Wimmera Mallee Water
WQIP	Water Quality Improvement Plan
WSA	Water Services Agreement
WSPA	Water Supply Protection Area
WTP	Water Treatment Plant
WWISP	Wastewater Infrastructure and Services Plan (Draft)
WWTP	Wastewater Treatment Plant

2 INTRODUCTION

Grampians Wimmera Mallee Water Corporation (trading as GWMWater) is a government-owned business established on 1 July 2004 under the Water Act 1989. GWMWater was formed from an amalgamation of the former Wimmera Mallee Water Authority (WMW) and Grampians Region Water Authority (GRWA).

The amalgamation was the consequence of a policy initiative identified in the Victorian Government White Paper 'Securing Our Water Future Together – Our Water, Our Future.' The White Paper acknowledged the extent that the two organisations covered similar geographical areas and that there was common infrastructure servicing most of the customer base. The WMPP impacts on much of this infrastructure and the White Paper acknowledged the importance of having a single Authority.

On 1 July 2007 the Water Industry (Governance) Act 2006 was introduced. Under the changed legislative provisions the compliance and accountability framework will be more closely aligned to the requirements of corporations law.

2.1 Mission, Vision and Business Objectives

2.1.1 Strategic Directions

GWMWater's Strategic Plan (2005-2009) outlines the vision, mission and values of GWMWater, and identifies the strategic directions and key issues for the next five years. This is supported by the Corporate Plan that is prepared in accordance with the Corporate Planning Guidelines issued by the Department of Sustainability and Environment (DSE) and reflects the priorities of the Strategic Plan and this Water Plan.

The organisation's Vision, *'Sustainable water for regional growth and vibrant communities'*, provides the strategic context in which GWMWater operate.

2.1.2 The Role of the Board

The Board set and approves the broad strategy, objectives and performance targets for the business and reviews progress towards achieving its specific goals. The Board ensures risks are managed for all key business and operational areas and reviews internal controls to ensure they are effective and remain current.

The Board establishes the broad strategic direction for a range of activities as they relate to operational sustainability, financial performance, organisational performance, a range and quality of service, compliance and risk management.

2.1.3 Constitution

Ministerial Order constituted GWMWater, with effect from 1 July 2004 under Section 98 and 100 of the *Water Act 1989* (the Act). Section 124 of the Act provides GWMWater the powers necessary or desirable to perform its functions, however, those powers can only be

exercised to perform a function given to GWMWater by an Act of Parliament. From 1 July 2007 GWMWater became 'Grampians Wimmera Mallee Water Corporation', continuing to trade as GWMWater.

2.1.4 Board Directors

Directors as at 1 October 2007 are:

Barry Clugston, (Chair)
Barry Hall
Jan Mahoney
Bonnie Thompson
Peter Vogel, (Deputy Chair)
Chris Hewitt
Rob McKenzie
Jeff Rigby (Managing Director)

To support the effective discharge of their governance obligations, the Board has established the following Committees within the structure of the Board:

- Audit, Governance and Risk;
- Environment and Works; and
- Remuneration.

In addition to the Committees, the following consultative and/or governance forums have been established by the Board to assist them in carrying out their duties:

- Project Control Group (WMPP);
- Pipeline Community Reference Group;
- Rural Tariff Working Group; and
- Future Use of Reservoirs Group.

The term of all Board Directors terminates at the end of September 2007. As a result the delivery and implementation of the Water Plan will be handed over to a new Board.

2.1.5 Accountability Framework

The Minister for Water, Environment and Climate Change has issued a Statement of Obligations (SOO) that outlines the expectations of Government for both urban and rural activities undertaken by GWMWater (Appendix 1). The requirements of the SOO extend to managing the relationship between the Department of Human Services (DHS), Environment Protection Authority (EPA) and DSE itself as regulator of dam safety.

The SOO is the primary instrument that underpins the Minister's expectations of GWMWater. The agreement with the State and Federal Governments relating to the implementation of the WMPP is a significant obligation that has its origins in the PDA.

The Water Plan acknowledges the role of the ESC in service regulation and the comprehensive performance monitoring and reporting regime that exists for urban services and currently under development for rural services.

At the centre of GWMWater's responsibilities are our customers and communities serviced by the Corporation. The underlying service levels and the performance against these proposed by GWMWater are specifically addressed in this Water Plan.

2.2 Main Business Undertakings

Urban water supply is a significant activity of GWMWater, delivering around 10,000 ML/a of water to 31,000 customers in 74 towns/localities across the service area. Most water supplied to these towns is non-regulated water that meets the requirements of the SDWA. Water supplied to a number of the smaller towns is regulated and a program of consultation is being undertaken within these communities to ensure that water quality issues are understood and managed appropriately.

Wastewater services are presently supplied to 24 towns/localities within the service area with new schemes commissioned in Ouyen, Minyip and Hopetoun in 2005.

Water supply for D&S customers has previously been the predominant rural activity. D&S activity currently entails bulk water delivery to around 6,800 rural customers through an annual channel-supplied dam-fill for up to 22,000 dams. GWMWater also supplies bulk water by agreement to some 83 rural customers across the region, typically for intensive agricultural activities such as poultry farms, piggeries and commercial feedlots.

2.2.1 Service Area

GWMWater serves a region with a population of approximately 72,000 and activities covering some 62,000 square kilometres, (i.e. approximately 25% of Victoria). The service area is similar in size to Tasmania and services all, or parts of thirteen municipalities.

GWMWater owns and operates a number of headworks reservoirs and related bulk water supply assets, details of which are summarised later in the Plan. GWMWater operates four pump stations on the Murray River at Swan Hill, Piangil, Nyah and Liparoo. These pump stations supply bulk water to urban storages and rural customers through the NMP. A number of groundwater bores provide water supply to thirteen towns in the south-east, south-west and west of GWMWater's supply area.

A significant undertaking over the next regulatory period will be the construction of the WMPP. The WMPP will convert 17,500 km of open channel to 8,800 km of pipeline infrastructure. The WMPP is expected to return 83,000 ML/a of water presently lost through expansive open channel network to Government for the environment and release a further 20,000 ML/a of water for new development.

Irrigation supply to some 3,000 hectares in the Wimmera Irrigation Area (WIA) around Horsham and Murtoa has been another significant activity for the rural part of the business. Irrigation activity, however, has been severely impacted by prolonged drought since 1998 and historically low storage levels.

Groundwater resource management surface water diversion licensing, river and catchment dam diversion licensing and support of key environmental management strategies are also functions of GWMWater.

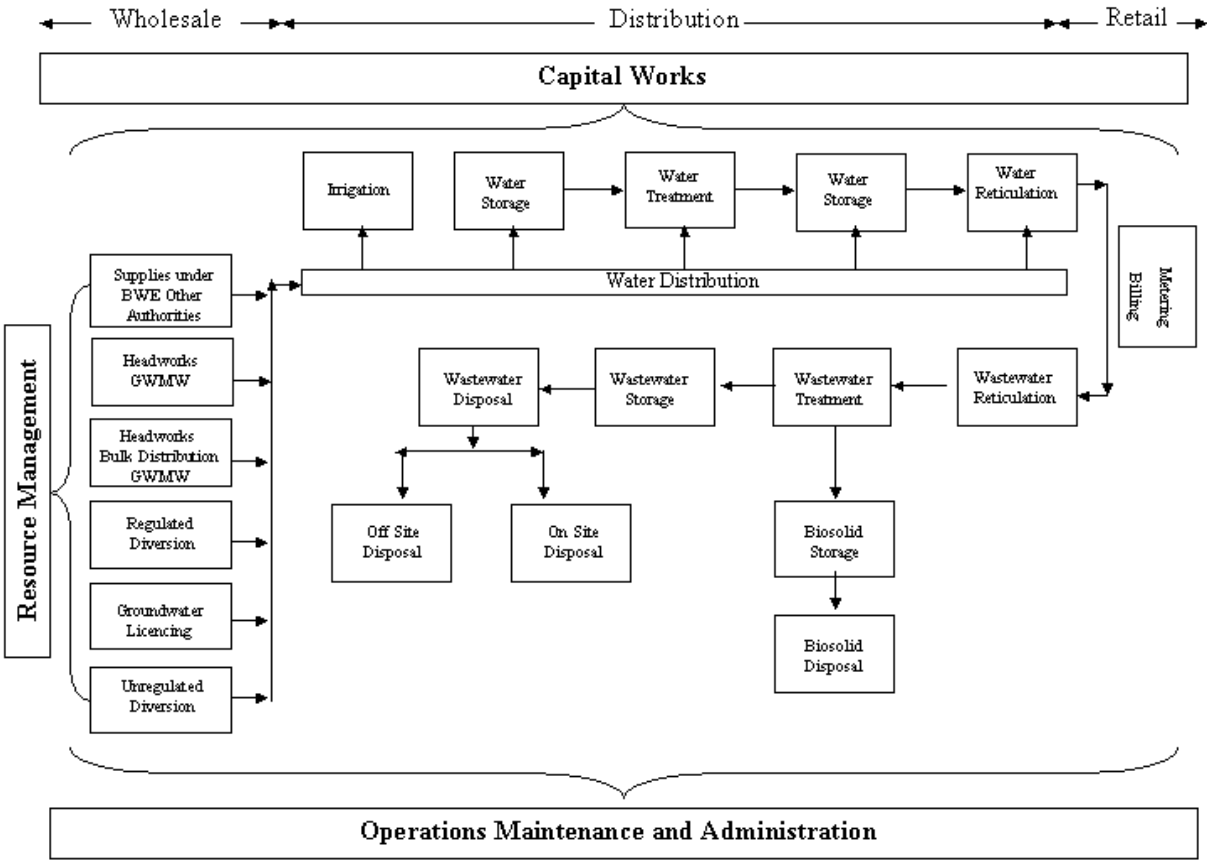
Figure 2.2.1: GWMWater Service Area

2.3 Activities

GWMWater is a vertically integrated water business with an established charter in all aspects of the water management cycle.

This makes GWMWater relatively unique as no other water business in Victoria has a recognised role in all aspects of water and wastewater service provision.

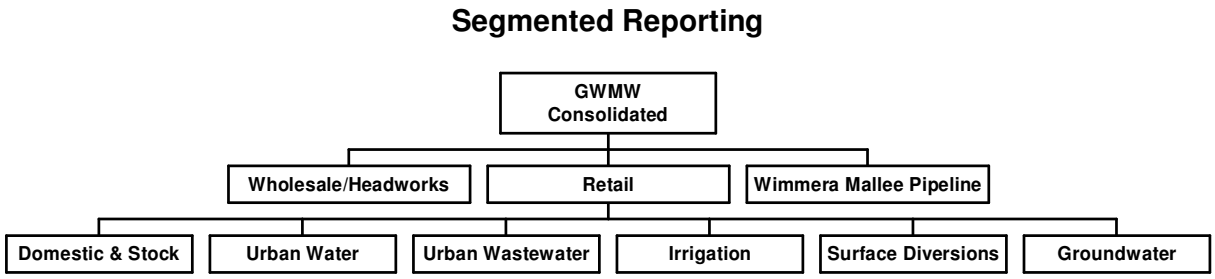
Figure 2.3.1: Services Supply by GWMWater



2.3.1 Business Segments

GWMWater has a number of segments or lines of business where revenue and expenditure are recorded separately. The same levels of segmentation are also used for pricing purposes.

Figure 2.3.1: Segmented Reporting



The reporting structure effectively divides the business into two functional areas - Wholesale/Headworks and Retail/Distribution. WMPP is currently a standalone business segment that will eventually be incorporated into the other two areas.

The Wholesale/Headworks area supplies bulk water to GWMWater's urban storages, rural and irrigation customers, two other water businesses (Coliban Water and Wannon Water) and one major bulk water Supply by Agreement (SBA) customer.

Headworks operations includes bulk water supply to a number of recreation lakes across the region, environmental releases to the Wimmera and Glenelg Rivers and compensation flows to the Glenelg River as required by the Bulk Entitlement (BE) conversion orders made on behalf of WMW and GRWA.

Within the Retail/Distribution area there are six lines of business or separate customer groups. SBA customers are incorporated within the D&S (rural) and urban water business lines while major trade waste customers are part of the urban wastewater customer base.

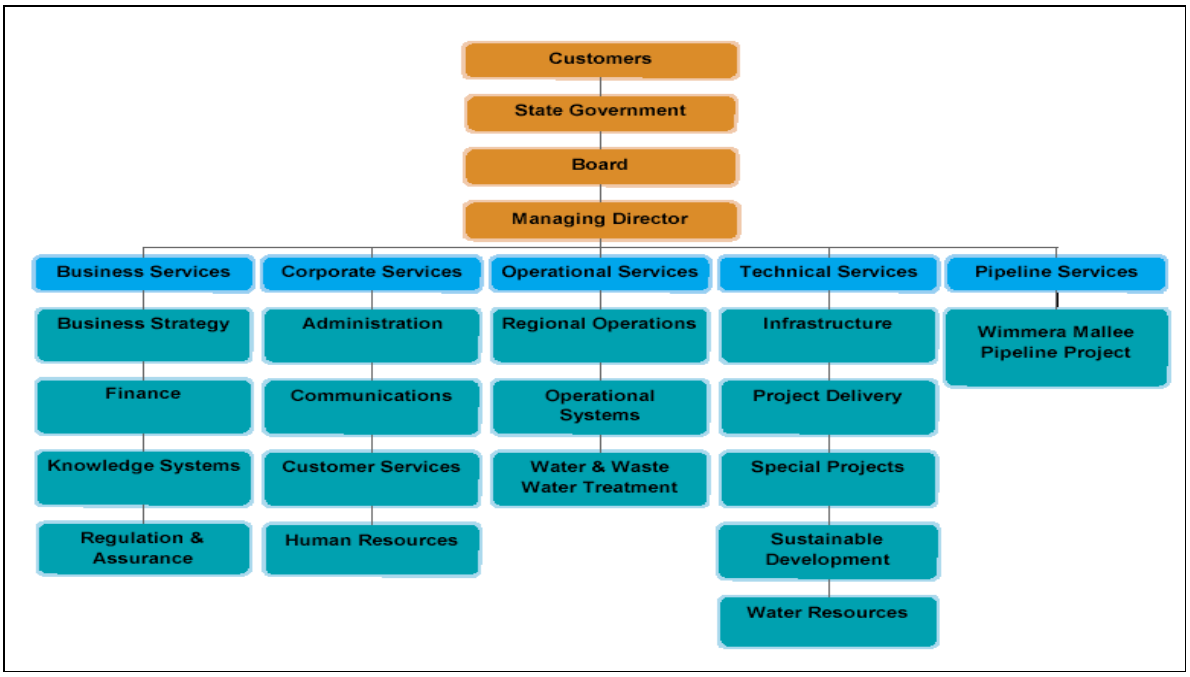
2.3.2 Service Delivery Model

GWMWater operates from headquarters in Horsham. It also maintains regional offices in Horsham, Ararat and Birchip; and has operational centres and work depots at St Arnaud, Warracknabeal, Nhill, Dimboola, Stawell, Charlton, Donald, Ouyen, Hopetoun, Sea Lake and Underbool.

2.3.3 Organisational Structure

GWMWater has been structured to provide resources to meet capital works, customer service and consultation program requirements. More recently, issues of drinking water regulations, the WMPP and the introduction of the new economic and technical regulatory environment have had a significant impact on GWMWater. Outlined below is a diagram of the organisational structure.

Figure 2.3.2: GWMWater Organisational Structure



2.4 Assessment Details

As a vertically integrated water corporation, GWMWater is involved in all activities associated with the provision of water and wastewater services. As a consequence of history and the way we have been regulated for rural and urban activities we continue to differentiate between urban and rural assessments.

2.4.1 Urban Assessments

A summary of water assessments (excluding fire services) and wastewater assessments are as follows:

Table 2.4.1: Summary of Urban Assessments

Urban Customers	**2006/ 2007**
Water Customers (ESC Definition) [1]	30,343
Water Assessments (Total) [2]	31,477
Wastewater Customers (ESC Definition) [1]	24,452
Wastewater Assessments (Total) [2]	25,359

1. *ESC Definition of 'a customer' has been applied in this month's report. ESC Definition: 'Vacant land customers in growth corridor towns are not defined as customers. All customers are considered as connected to the organisations system'.*
2. *Assessment numbers based on total number of assessments and includes vacant land not connected.*

2.4.2 Rural Assessments

Details of the rural assessments at July 2007 are as follows:

Table 2.4.2: Summary of Rural Assessments

Service Type	Rated Customers	Rated Services	Area (Ha)	Allocation ML/a
Channel	4,831	10,319	1,700,000	44,500
Pipeline	1,144	3,009	820,000	4,920 *
Bore	87	229	74,000	750
Irrigation	209	216	3,000	13,100
Supply By Agreement	82	83		7,000
Groundwater	149	198	-	55,500
Surface Water	341	379	-	6,120
TOTAL	**6,843**	**14,433**	**2,597,000**	**131,890**

* *Total capacity of current pipeline systems is 7,093 ML/a*

These figures exclude non-rated services such as Division 4 D&S customers who physically cannot gain access to the water supply system.

The major groundwater supplies involve direct investment by customers in bores, pumps and other infrastructure. GWMWater's role comprises mainly resource management and licensing undertaken on behalf of the Minister.

2.5 Sources of Water

The major source of water is the extensive system of headworks in the Grampians area and is highlighted in Figure 3.4.1. Channel capacities range from 400 ML/d near the headworks to less than 2 megalitres per day for many private channels.

The Murray River supplies farms and towns in the northern area via the NMP. This system consists of 3,364 kilometres of pipeline servicing 815,000 hectares.

The Waranga Western Main Channel supplements urban and rural supplies in the east of the region and indirectly supplies the township of Quambatook via the Normanville Pipeline scheme.

Groundwater supplies irrigation and D&S customers mainly in the western part of the region. Groundwater is also used to provide a water supply to 13 towns. The Walpeup West bore area supplies a small number of customers through licensed bores in the north of the region that are part of a reticulated water delivery network.

GWMWater also manages a number of regulated and unregulated diversions for irrigation and D&S purposes from waterways in the area.

Table 2.4.3: Headworks and Catchment Overview

Catchment Source	Catchment Area (km^2)	Mean Annual Flow (ML)	Storage name	Year commissioned	Full capacity (ML)	Full supply level (m AHD)	Description
Mackenzie River at Wartook Reservoir	80	29,000	Lake Wartook	1887	29,300	441.69	Supplies Horsham and D&S demands via the Mt Zero Channel. Also supplies water to the larger D&S system when releases are made for the purpose of maintaining a sufficient flood reserve and during drought periods. Wartook Reservoir is located in the headwaters of the Mackenzie River.
Mt William Creek at Lake Lonsdale	1,026	52,000	Lake Lonsdale	1903	65,500	187.62	Lake Lonsdale is drawn upon before water from other reservoirs because of the higher evaporation from Lonsdale. Lake Lonsdale is an on-stream reservoir on Mount William Creek.
Wimmera River at Glenorchy	1,953	82,000	Taylors Lake	1923	33,700	146.16	Sufficient air space is maintained in Taylors and Pine Lakes to harvest Wimmera River water when it is available. Water is diverted northwards at Glenorchy and to the south at Huddleston's Weirs and stored off-river at Taylors and Pine Lakes.
			Pine Lake	1923	62,000	143.89	
			Green Lake	1935	5,350	135.7	Green and Dock Lakes are part of the headworks system but are used infrequently. The main reason for this is unacceptable salinity levels in Dock Lake. Green Lake has a high recreational value.
			Dock Lake	1935	4420	134.02	
Glenelg River at Rocklands Reservoir	1,355	125,000	Rocklands Reservoir	1953	348,310	195.47	Rocklands and Toolondo are used to fill both Taylors and Pine Lakes as well as supplying water demands along the way. They are also used to supply demands further north using the Rocklands Lubeck Channel. Water from Rocklands Reservoir is released in preference to releases from Toolondo Reservoir, which has lower evaporation. Toolondo is an off-river storage and, apart from a very small local catchment, can only be filled by releases from Rocklands. It is filled usually during low demand periods using the Rocklands Channel.
			Toolondo Reservoir	1953	92,430	165.93	
			Moora Moora Reservoir	1933	6,300	219.95	Moora Moora Reservoir is a small reservoir primarily used to supply the Brimpaen and Laharum areas.
Fyans Creek		35,000	Lake Bellfield	1966	78,560	276.5	Bellfield is mainly used for drought reserve because of low evaporation. Bellfield is the last storage available (after Lake Lonsdale and Lake Fyans are emptied) which can supply the Main Central and Charlton Channels. Lake Bellfield is an on-stream reservoir on Fyans Creek. A small volume of water can be diverted from the upper reaches of the Wannon River (Glenelg tributary) into Lake Bellfield.
			Lake Fyans	1916	18,460	204.3	Lake Fyans is part of the headworks system, however its storage capacity is relatively small and its primary use is to supplement urban supplies to the townships of Stawell and Ararat. Fyans Lake is an off-stream storage supplied with water diverted from Fyans Creek.

Catchment Source	Catchment Area (km^2)	Mean Annual Flow (ML)	Storage name	Year commissioned	Full capacity (ML)	Full supply level (m AHD)	Description
Avon/Richardson River at Donald	1,850	30,000 estimated	Lake Batyo Catyo	1961	2,250	122.24	The Richardson River's flow can be diverted to Lake Batyo-Catyo, when water is available, to reduce reliance on transfers from the Grampians storages.
First and Second Wannon Creeks	23	7,500					Water can be diverted from these two creeks in the upper Wannon catchment to Lake Bellfield during the winter-spring period.
Avoca River diversion to Waranga Western Channel		0 to 1,000; Average 500					Avoca River water is diverted to Waranga Western Channel during high flow periods, then to GWMWater channel system.
Goulburn-Murray Water via Waranga Western Channel		14,000 (average)					Water supply via Waranga Western Channel is covered by the Murray-Goulburn BE Order. Yield is 2 yearly average, with 26,000 ML and 2,000 ML delivered every second year.
Murray River Pumping Stations		3,500					Pumping Stations located at Swan Hill, Piangil and Liparoo supply rural customers in the Northern Mallee as well as the towns of Chillingollah, Chinkapook, Manangatang, Nandaly, Sea Lake, Speed, Tempy, Ultima, Underbool, Waitchie and Walpeup. Lalbert and Patchewollock are also supplied from the Preliminary stages of the WMPP).
Groundwater bores – Urban supplies.		1200					Groundwater supplies are provided to the towns of Apsley, Cowangie, Edenhope, Goroke, Harrow, Kaniva, Kiata, Lillimur, Miram, Murrayville Nhill, Serviceton, Streatham Westmere
Surface and pipeline supplies – South eastern areas		400					There are 3 completely independent systems that make up the East Grampians Pipeline (EGP) supply. The Elmhurst system, The Buangor System and The Willaura system, Lake Bolac, Moyston, Wickliffe and Willaura supplied via the East Grampians Pipeline (EGP). (Source is harvests from local streams and ground water)
Total capacity:					**746,600**		

Notes:

- *Bellfield, Rocklands, and Wartook, with their better evaporation and water quality characteristics, are used to hold water for drought reserve.*
- *The major part of the domestic, stock and irrigation system is supplied from the Charlton, Main Central, Rocklands, Lubeck and Taylors Lake channels and from the main channel from Pine Lake.*
- *FSL volumes shown to accord with those in BEs as operational FSL volumes.*
- *Wimmera River water can be diverted into the Main Central Channel from Glenorchy Weir or be directed to the Rocklands Lubeck Channel and to Pine and Taylors Lakes from Huddleston's Weir.*

2.6 Infrastructure Assets

The geographic distances associated with the service region, combined with the relatively low rainfall and small populations require considerable investment in infrastructure to meet GWMWater's ongoing service delivery obligations. The distribution of water and wastewater throughout the serviced area is a major exercise, with an inventory of assets required to deliver these services highlighted below.

Table 2.6.1: Infrastructure Assets 2006/2007

ASSET GROUP	CATEGORY	QUANTITY
URBAN WATER SUPPLY SYSTEM		
Water Mains	Reticulation / Trunk Mains	1,245 km
Water Pump Stations	(Not including WTPs)	94
Water Treatment Plants	Dissolved Air Floatation/Flocculation #	12
	Microfiltration #	3
	Disinfection (stand alone)	18
	Strainer / Sedimentation / pH correction	1
	Desalination	3
Water Storages	Reservoirs	117
	Tanks	34
	Elevated Tanks	37
	Weirs	4
Water Bores		37
Water Meters		29,790
RURAL WATER SUPPLY SYSTEM		
Channels	Headworks	274 km
	Irrigation	140 km
	Drainage	32 km
	Domestic & Stock	6,537 km
Pipelines	Northern Mallee Pipeline	3364 km
	Rainbow West Pipeline	63 km
	Headwork's	5 km
Pump Stations	Domestic & Stock	7
	Drainage	0
	Northern Mallee Pipeline	12
Elevated Tanks		4
Storages	Headworks	12
	Balancing	2
Water Bores		39
Major Structures		6
WASTEWATER SYSTEM		
Wastewater Mains	Reticulation / Rising Mains	635 km
Wastewater Plants	Trickling Filter Plants	6
	Lagoons systems	18

ASSET GROUP	CATEGORY	QUANTITY
	Oxidation Ditch	1
Wastewater	Pump Stations	84
REUSE SYSTEM		
Reuse	Mains	34 km
	Tanks	2

\# *Includes plants under the control of Build, Own, Operate and Transfer (BOOT) operator*

* *Excludes specific assets in the channel system (bridges, regulators, syphons etc) and Desalination at Edenhope, Hopetoun and Rainbow to reduce salinity. I pilot plant at Nhill to evaluate the potential of improving water quality by using chemical free technology.*

3 OUTCOMES OF FIRST REGULATORY PERIOD

The first regulatory period for GWMWater was truncated to two years to allow time for regulatory issues specific to the rural sector to be resolved.

The Water Industry Regulatory Order (WIRO) was adjusted to accommodate the form of regulation for rural activities in the first regulatory period (Appendix 2). This adjustment provided a framework for regulating the cost efficiency of rural activities without any specific price oversight. This meant that GWMWater effectively lodged two Water Plans in the first regulatory period.

As is the case with this current Water Plan, the WMPP dominated the planning framework for the first regulatory period. The WMPP funding model for the WMPP did not require GWMWater to expend any funds for infrastructure in the first regulatory period. Some of the benefits however were starting to be realised through avoided channel maintenance costs. To compensate for the artificially low cost structure in the first regulatory period, it was critical for GWMWater to be provided an initial Regulatory Asset Base (RAB) to sustain prices in the intervening period.

3.1 Summary of Outcomes from the 2006-2008 Price Determination

The Final Decision on the 2006-2008 GWMWater Water Plan was released by the ESC on 22 June 2006. The Final Decision generally accepted GWMWater total revenue requirements but assumed a more optimistic seasonal outlook and therefore greater levels of water supply and delivery. Overall the total revenue requirement was reduced by $600,000 over the two-year period.

The lower revenue requirement was based on an adjustment to the operating costs and capital costs. Operating costs were adjusted to achieve greater productivity than was assumed in the GWMWater operating cost estimates. Core capital expenditure was adjusted to be more reflective of performance in delivery in previous years. In its analysis however, the ESC, on the basis of advice from SKM, considered the cost to construct the WMPP to be lower than market rates that prevailed at the time.

The specific pricing proposals for urban activities as represented in the inaugural Water Plan were generally accepted. Rural prices were adjusted down by the value of the $600,000 revenue adjustment that was established for GWMWater.

The most significant deviation from the assumptions that underpinned the first regulatory decision relate to the supply capability. This impacted significantly on all elements of the program over the regulatory period but most particularly revenue.

3.2 Supply and Demand

The supply capability projected in the first Water Plan was adjusted by the ESC to reflect a more optimistic supply capability over the period of the first regulatory period. It

subsequently transpired that the supply capability was significantly worse than the conservative supply outlook projected by GWMWater in the 2006-2008 Water Plan.

Low rainfall and associated minimum inflows into the Grampians Headworks system significantly reduced allocations from GWMWater water supply systems.

Table 3.2.1: Water Allocations and Restrictions Applied in the Wimmera-Mallee System

Customer Group	2003-04 Actual	2004/05 Actual	2005/06 Actual	2006/07 ESC	2006/07 Actual	2007/08 ESC	2007/08 Actual
Winter D&S	35%	35%	35%	35%	10%	50%	NA
Summer D&S	38%	35%	25%	35%	0%	50%	0%
Urban – General	3-4	2-3	2-3	1	4	1	4
Urban – Horsham	3	3	3	1	4	1	4
Irrigation	0%	2.5%	0%	5%	0%	30%	0%
Irrigation Diversions	0%	0%	0%	5%	0%	30%	0%

3.3 Revenue

As a result of the reduced water allocations and increased water restrictions, GWMWater will incur an estimated overall loss of revenue across the regulatory period of $5.2 Million.

In accordance with the tariff principles under the rural revenue cap, GWMWater adjusted some rural tariffs to recover revenue from customers in 2007/2008. The tariffs adjusted related to SBA and minimum charge D&S customers, to skew price increases to areas that were expected to experience increases under the proposed WMPP tariffs. The proposed increases were not sufficient to meet the gap and there remains a $1.2 Million shortfall on rural revenue. GWMWater can roll the revenue shortfall from the rural revenue cap into future regulatory periods.

The constraint of the price cap does not however provide for the recovery of urban revenue shortfalls from the first regulatory period. Based on the performance of 2006/2007 and the anticipated performance of 2007/2008, it is expected that the urban revenue shortfall will be $4 Million.

GWMWater will be seeking to recover the full $1.2 Million in revenue lost from the first regulatory period in this 2008-2013 Water Plan.

3.4 Operating Expenditure

The initial regulatory period operating budgets were based on water allocations and restrictions policies of previous years. As a result of the drought, consumption levels of towns reliant on the Grampians headworks system have reduced due to the escalation of water restrictions to Stage 4 from 1 October 2006. Rural D&S customers serviced by the Grampians headworks system are unlikely to receive any dam fill during the first regulatory period. These customers are entitled to receive a basic water carting service of 28,000 KL every two months to meet their domestic requirements.

As a result of this, there has been a significant shift in the composition of expenditure during this period. To a large extent, expenditure incurred on carting water to rural customers has been offset by reduced expenditure on maintaining and operating the channel system. There has also been a reduction in volumetric charges for water treated through the privately operated treatment plants due to reduced water consumption (i.e. reduced BOOT (Build, Own, Operate Transfer) toll expenditure).

Overall, expenditure during the initial period is expected to remain within the final ESC decision. Operating expenditure costs avoided during the first year, due to reduced supply, are expected to be offset by the anticipated escalation of water carting in 2007/2008 and contingency water supply arrangements for Watchem and Donald. Budgeted operating expenditure in 2007/2008 is estimated to be $1.5 Million higher than the final decision. The following table provides a comparison of the final decision compared to forecast expenditure over the period.

Table 3.4.1: Forecast Operating Expenditure Compared to Final Decision (1/1/07$)

Operational Expenditure	2006-07 ($M)	2007-08 ($M)
June 2006 Final Decision Operating Expenditure	**27.078**	**26.261**
Forecast Operating Expenditure	27.036	27.338
Contingency Water Supply Expenditure (Watchem, Donald)	-	0.412
Less: Emergency Bore Works (Fully Funded)	1.100	-
Forecast Operating Expenditure	**25.936**	**27.750**
Variance to Decision	**1.142**	**1.489**

The 2008-2013 Water Plan operating budgets have been developed in light of the anticipated outcome of the first regulatory period and assumptions surrounding the estimated effect of the transition from a channel, to a piped water supply system.

3.5 Delivery of Key Capital Projects

3.5.1 Wimmera Mallee Pipeline Project

The signing of the PDA in May 2006 paved the way for the mobilisation of a Project Team to deliver the WMPP. This has resulted in a short term increase in the overall staff levels for GWMWater, but was required to bring together contractors and the community to construct supply systems 1, 2, 5 and 7 within the first Water Plan period. Originally a ten-year program, the WMPP was reduced to five years as a response to the drought, with an aim to reduce completion time even further.

Supply System 2 was fast tracked in response to the drought and will provide water for the communities of Jung, Warracknabeal, Brim, Beulah, Hopetoun, Lascelles and Woomelang. Water carting points will be provided for district landowners to access stock and domestic water for farms. This will reduce the reliance on poor quality groundwater and long carting distances for as long as the drought persists.

With the assistance of the Barengi Gadjin Native Title Land Council and contractors, GWMWater have consulted on cultural heritage issues related to the planning and

construction on all stages. This included successfully navigating the Wimmera River corridor, which is subject to Native Title consideration. Formal agreements have been established between GWMWater and Barengi Gadjin that identify strong working relationships for the future. Construction crews now employ 15 indigenous staff, providing valuable on the job training for both labouring and skilled positions.

Overall progress of the WMPP has been well received by landowners, as has the quality of rehabilitation works on individual farms.

By the end of 2007, it is expected that 46% of the water savings will have been already delivered.

3.5.2 Water Quality

The construction of the Willaura WTP was completed in 2007 and now provides high quality drinking water to the towns of Willaura and Lake Bolac.

The continual implementation of the water mains replacement program and development of a water quality management strategy to comply with the SDWA was complete and now being implemented.

Further water quality improvements were identified at Nhill after extensive community engagement and consultation. Providing a drinking water supply to Nhill through a new pipeline extending from Dimboola was identified as the most sustainable option and will progress in this Water Plan period.

Initial consultation relating to improved water quality was undertaken with residents and businesses in the disinfected-only towns of Beulah, Brim, Donald, Jung, Lalbert, Manangatang, Minyip, Murrayville, Nullawil, Quambatook, Rupanyup, Sea Lake, Ultima, Walpeup, Watchem, Woomelang, Natimuk and Wycheproof. The outcomes of these consultations have been considered in preparing the projects to be delivered in the 2008-2013 Water Plan period. These projects are outlined in the capital expenditure forecast section of this plan.

Blue Green Algae (BGA) outbreaks are not unexpected in the region, however the increased incidence required GWMWater to review and update its BGA response plan.

The fires in the Grampians National Park in January 2006 led to the suspension of the provision of a treated water supply to several towns for extended periods. The decision to suspend the supply of treated water was made in conjunction with DHS and communicated to the public via public broadcast. A supply of packaged water was made available to residents of Halls Gap and Pomonal. The damage bill caused by the fires was close to $280,000. This included the cost of packaged water, business interruption claims and numerous infrastructure replacements.

GWMWater collaborated with the South Australian Water Corporation, United Utilities and the Australian Water Quality Centre to conduct a pilot-scale assessment of an electromagnetic field (EMF) device for scale control on desalination of brackish

groundwater supply. The results of the trial showed great promise and have provided valuable data to the water industry.

3.5.3 Wastewater

The sewering of towns at Minyip, Ouyen and Hopetoun were essentially complete prior to the first regulatory period, with residents connected to the sewer and community consultation continuing to ensure the most viable reuse schemes are constructed and implemented for these towns.

Major upgrades to the Warracknabeal WWTP will be commenced in 2007/2008, with the remainder to be complete at the beginning of the 2008-2013 regulatory period.

Consultation with Nhill residents to improve wastewater quality at the WWTP and opportunities for improved recycled water use also occurred. Similar processes occurred at Stawell and Dimboola, with all towns currently seeking grant funding to secure viable and sustainable reclaimed water schemes.

Partial funding through the Country Towns Water and Sewerage Scheme Program (CTWSSP) allowed investigations to commence at Rupanyup, Lake Bolac and Great Western for new sewerage schemes. These have become added to the scope of the existing capital works program and the delivery of these projects are proposed in the second regulatory period.

Other significant wastewater projects delivered in the first regulatory period include the:

- Expansion and lining of the winter storages at the Halls Gap WWTP;
- Stawell sewer pump station and rising main upgrade;
- Provision of recycled water to Northern Melbourne Institute of TAFE (College of Wine) in Ararat; and
- A new offsite irrigation system at St Arnaud and associated works on a private landowners property.

3.5.4 Groundwater/Surface/Irrigation Management

Metering obligations for all groundwater diversions were complete.

Groundwater diversions management continues through the implementation of management plans for defined Water Supply Protection Areas (WSPA).

The impact of drought and lack of readily available surface water resources has led to a substantial increase in demand for licence applications for D&S and groundwater bores and led to the re-activation of the Governments Emergency Water Supply program.

GWMWater has been responsible for coordination of approximately $1.5 Million of Government funds used to re-establish existing drought bores and establish new bores across the region. GWMWater has also conducted significant groundwater investigations to develop drought contingency plans for supply to towns across the region. Bores that

have been proven to yield sufficient quantities of water with acceptable water quality have been developed and transferred to the relevant municipality.

The GWMWater Wimmera Irrigation Area (WIA) was also under review to determine how it might best operate in the future. The driver of this review has been the series of drought years, which has effectively left them with nil allocation. As a result of an extensive consultative process, it was considered that significant change is required to the irrigation area to enhance its viability. A key component of these changes will be the establishment of an efficient water market, where irrigation entitlements will be able to be traded into and outside of the WIA.

A formal water exchange is in the planning phase that will begin at the start of the 2008-2013 Water Plan period to stimulate trade and assist customers wishing to sell their entitlements to obtain a fair value for their entitlements.

During the secondary regulatory period, considerable reconfiguring of the irrigation area will be required to ensure that irrigation is both cost efficient and water efficient.

3.5.5 Recreational Lakes and Reservoirs

Approximately 3,000ML of the water allocated from savings that is to be generated from the WMPP have been allocated for general community benefit amongst 11 recreational lakes.

GWMWater supported strong community views for the cost of this water to be shared across the region. This commitment has been reflected in the initial charge of $40 ML proposed in the 2005-2008 Water Plan, with an annual revenue target for recreation water of $40,000 for the 2008-2013 Water Plan.

The future operation and management arrangements of the region's bulk water supply reservoirs following completion of the WMPP will also undergo extensive public review. The major focus is on the 12 major bulk water supply reservoirs that support the existing water supply system.

The purpose of the review has been to optimise the use of the headworks reservoirs to meet consumptive and environmental demands while recognising the recreational and tourism benefits that the reservoirs provide to the community. The operating scenarios developed will be subject to an extensive community consultation program that will both inform and assist GWMWater in arriving at a final decision.

3.6 Actual Capital Expenditure Associated with the Delivery of Outcomes

Capital expenditure forecasts for the first Water Plan was $27.29 Million (two years). The current assessment of actual and proposed capital expenditures forecast is $26.58 Million. Year-on-year analysis shows an under delivery in 2006/2007 with over-delivery in 2007/2008.

The primary reasons for the under delivery in 2006/2007 results from GWMWater allocating resources to, what were considered higher priority tasks, primarily:

- Drought mitigation measures;
- Focus on assisting with the start-up of the WMPP; and
- Development of the water infrastructure, wastewater infrastructure service plans and the four Asset Life Cycle Plans (ALCPs).

Of the total 2006/2008 Water Plan capital expenditure, projects to the value of $20.5 Million are budgeted to be worked on by the conclusion of 2007/2008 with a total spend of $16.9 Million.

GWMWater's capital expenditure spend will be close to 2006-2008 Water Plan expenditure forecasts with some differences in the outcomes compared to those forecast in the 2006-2008 Water Plan. These differences are summarised below and detailed in more detail in Appendix 3.

Table 3.6.1: Summary of Expenditure Forecast v's Expected Delivery

Capital Expenditure Forecast v's Delivery of 2006-2008 Water Plan	**Difference ($'000)**
Expenditure deferred to the 2008 Water Plan period.	(2,319)
Increased expenditure resulting from projects being delivered at a cost different from that forecast in Water Plan 2005.	4,141
Increased expenditure resulting from additional compliance work	4,304
Reduction in expenditures resulting from deferral of projects based upon risk assessed priorities	(6,483)
Reduction in expenditures from other minor projects	(350)
Overall difference between 2005 Water Plan capital expenditure forecasts and planned expenditures to 30 June 2008 (excluding contributions).	**(707)**

3.7 Service Standards

As part of the Water Plan for the first regulatory period, GWMWater committed to meet both approved targets for a core set of service standards related to urban services and the service attributes agreed with Customer Consultative Committees (CCC). This section outlines GWMWater's progress on the delivery of these outcomes.

3.7.1 Urban Water Standards

The basis of urban water supply has been confirmed through the development of the Urban Customer Charter. The basic standards for supply and the procedures employed in

the management of customers have been agreed and customers pay for water on the basis of the level of service provided. Unless agreed otherwise, all customers will receive the same standards of service delivery. This service is only differentiated by the size of the tapping provided at the customer service point.

Provided below is an account of GWMWater's performance against the service standards and targets set out in the first regulatory period.

Table 3.7.1: Water Supply Service Standards

Service Standards	**2005/06 target**	**2005/06 actual**	**2006-07 target**	**2006/07 actual**
Water				
Unplanned water supply interruptions (per 100km)	90	103	90.0	58.4
Avg. time to attend bursts and leaks – priority 1 (mins)	-	54	30.0	26.3
Avg. time to attend bursts and leaks – priority 2 (mins)	-	196	60.0	30.4
Avg. time to attend bursts and leaks – priority 3 (mins)	-	221	60.0	42.1
Unplanned water supply interrpts restored within 5 hrs (%)	95	98	98	99.3
Planned water supply interruptions restored within 5 hrs (5)	95	87.5	95.0	88.4
Avg. unplanned customer minutes off water supply (mins)	20	29	20.0	18.8
Avg. planned customer minutes off water supply (mins)	10	16	12.0	27.2
Avg. frequency of unplanned water supply interruptions (no.)	-	0.04	0.2	0.2
Avg. frequency of planned water supply interruptions (no.)	-	0.004	0.05	0.12
Avg. duration of unplanned water supply interruptions (mins)	100.0	93	100.0	78.9
Avg. duration of planned water supply interruptions (mins)	240.0	133	240.0	219.0
Customers experiencing 5 unplanned water supply interruptions in the year (no.)	-	0.0	0.0	0.0
Unaccounted for water (%)	14.0	34.2	14.0	9.7

Minimum Flow Rates	**Size of pipes**				
	20mm	25mm	32mm	40mm	50mm
Flow rate (litres per minute)	10	25	40	60	100

The targets set for the first regulatory period were based on available data at the time. The quality of the historical information to support the proposed targets was underdeveloped and subsequent performance monitoring has found that in many cases, actual performance differed markedly from that indicated by the targets, particularly in 2005-2006. This lack of adequate data has meant that several of the service standards were set at unrealistic levels and consequently were not able to be met. Significant improvements were made in 2006-2007.

To address the remaining concerns, GWMWater is implementing a significant program to improve the accuracy and reliability of data collected. Continual improvement and a more accurate account of the service levels provided to customers in the next regulatory period will allow GWMWater to track and measure performance more accurately and reliably.

Historically low pressure at the customer's service point has been GWMWater's most challenging service standard. Substantial investment has now been made to improve pressure in many of the towns.

3.7.2 Urban Wastewater Standards

A standard wastewater service is available to all 'declared properties' and a common fixed service charge applied to all wastewater services.

GWMWater responsibility for the service commences at the sewer stack with anything beyond this the responsibility of the customer. There are isolated instances where customers are permitted to pump wastewater into the sewerage system, generally where they are not directly serviced by a reticulated gravity network. For the purpose of system operation these customers are deemed to be receiving the same service as traditional gravity systems. Agreed wastewater service standards and performance are outlined below.

Table 3.7.2: Agreed wastewater service standards and performance

Sewerage	**2005/06 target**	**2005/06 actual**	**2006-07 target**	**2006/07 actual**
Sewerage blockages (per 100km)	36	40.9	36.0	40.3
Avg. time to attend sewer spills and blockages (mins)	30	31.8	30.0	26.2
Avg. time to rectify a sewer blockage (mins)	180	219.3	180.0	134.4
Spills contained within 5 hours (%) (Priority 1)	97.0	100.0	97.0	100
Spills contained within 5 hours (%)(Priority 2)	97.0	98.9	97.0	100
Customers receiving 3 sewer blockages in the year (no.)	0.0	NA	0.0	0.0

NA Not available

Wastewater service standards set for the first regulatory period suffered from similar problems as noted above for water service standards, viz poor quality of historical information. As with the water service standards, GWMWater has implemented a continual improvement program to improve its monitoring and performance in this area. The outcomes of this improvement program are already being reflected in independent audits of annual performance data. The audits recognised that the accuracy and reliability of data in the first regulatory period has significantly improved. Based upon this, the targets set for the second regulatory period will better reflect the level of service.

The majority of the water industry reported sewer blockages between 20 and 40 per 100 km in 2005/2006. Whilst at the higher end of industry average, GWMWater is developing its Asset Management System (AMS) to address these high numbers and has been a priority during the first regulatory period. Other results were comparative with industry average.

3.7.3 Customer Service Standards

Table 3.7.3: Customer Service Standards

Customer Service	**2005/06 target**	**2005/06 actual**	**2006-07 target**	**2006/07 actual**

Complaints to EWOV (per 1000 customers)	0.90	1.49	0.90	1.6
Telephone calls answered within 30 seconds (%)	80	82.3	80	83.1

GWMWater had undergone a process of unbundling tariffs and as a result the higher number of Energy and Water Ombudsman of Victoria (EWOV) complaints resulted from complaints regarding fees and charges, billing and service charges. Due also to the unprecedented dry conditions and economic hardship experienced by some customers, EWOV complaints continued into the 2006/2007 financial year. It is anticipated that these will reduce in the future as conditions improve and consultation on tariffs continue through to the next Water Plan.

3.7.4 Rural Water Standards

No rural water service standards were reported in the first regulatory period.

ESC rural performance reporting will be required for the first time from July 2007 onwards and will complement proposed National Water Commission expectations. The ESC has committed to developing a performance reporting framework consistent with the Nartional Water Commission framework.

3.8 Changes in Legislative Obligations

There were a number of significant changes to the regulatory framework that impacted on the delivery of the first Water Plan.

These new obligations impacted on the deliverability of the program and costs beyond that anticipated when the first Water Plan and prices were determined. These are summarised as follows.

- Introduction of legally enforceable drinking water quality standards through the *Safe Drinking Water Regulations 2005 (SDWR)*;
- Nomination of towns under the CTWSSP;
- Revision to the Statement of Obligations;
- The introduction of fluoride to the Horsham township water supply;
- Introduction of new obligations on the under the *Water (Governance) Act 2006*; and
- Critical Infrastructure Protection (CIP).

3.8.1 Safe Drinking Water Regulations 2005

The SDWR came into effect on 15 July 2005. The regulations establish standards for specified elements in drinking water. The most significant impact for GWMWater was the requirement to improve water quality to a number of towns such as Nhill and Natimuk. Through undertakings with DHS, water supply upgrade investigations and works will also occur at Lalbert, Ultima and Manangatang.

3.8.2 Country Towns Water Supply and Sewerage Scheme Program

With support from government GWMWater will implement priority water supply and sewerage projects as determined by the Minister for Water, Environment and Climate Change under the CTWSSP.

GWMWater has three sewerage schemes at Great Western, Lake Bolac and Rupanyup, each having approximately 136, 167 and 257 customer connections, which are planned under the CTWSSP on the assumption of full cost recovery from the beneficiaries of the scheme.

3.8.3 Fluoride Treatment for Horsham

DHS mandated the introduction of fluoride at Horsham. In September 2005 GWMWater received a direction from DHS, under Section 5(1) of the Health (Fluoridation) Act 1973, to supply fluoridated water to Horsham. Consequently, GWMWater is bound by the Heath Act to supply fluoridated water in 2006. The project, which was completed in December 2006, was fully funded by DHS under the government initiative to improve health in regional Victoria. The cost of the entire project $530,000, with project management resources provided by GWMWater staff.

3.8.4 New Obligations on the Board

The *Water (Governance) Act 2006* requires a number of changes to the governance regime for GWMWater, the main change being that the Chief Executive Officer becomes and Managing Director, thus having rights and responsibilities equivalent to other Directors of the Board. The other significant change was the conversion of GWMWater from an Authority to a Statutory Corporation. This will impose higher and more rigorous standards on the business and the Board, as well as compelling GWMWater to adopt a wider duty to have regard to sustainable management principles in carrying out its functions.

A revision to the SOO also expanded existing obligations to reflect broader changes in Government policy and focus the future management of the water industry in a more sustainable and viable manner.

It is estimated that these new obligations will not impose significant costs on GWMWater during the second regulatory period. These will however have an implication on the wider suite of obligations that determine the costs of the corporation during the second price period.

4 REGULATORY AND GOVERNMENT OBLIGATIONS

GWMWater is expected to comply with all legislative obligations, with some of these key obligations outlined in Appendix 4. Those expectations of GWMWater beyond legislative requirements are largely represented in the SOO and the responsibility or DSE. DSE is also responsible for oversight of Dam Safety requirements and the broader governance arrangements of GWMWater.

DHS and EPA are responsible for technical regulation of GWMWater and represented in the SOO. DHS is responsible for regulating water quality and EPA are responsible for regulating environmental performance.

In addition to the role of the ESC in independent pricing and monitoring performance, EWOV provide an advocacy service for customers.

4.1 Statement of Obligations

4.1.1 Preparation and Delivery of the Water Plan

'GWMWater must develop a Water Plan that complies with the requirements of this Statement for the purpose of enabling the Commission to make a decision with respect to Prices for Prescribed Services in respect of the Regulatory Period. GWMWater must deliver the Water Plan to the Commission by 8 October 2007.'

This is GWMWater's second Water Plan and has been prepared in accordance with the expectations of GWMWater as outlined in the SOO and the Regulatory Framework established by the ESC.

The regulatory cost of preparing the Water Plan and associated regulatory licence fees has been significant. Preparation commenced in the later part of 2006, with a number of staff and Board being regularly involved in the drafting and consultation of the document.

4.1.2 Procedural Requirement

'In developing the Water Plan the Authority must undertake effective consultation'.

Prior to the relaease of the 2008-13 Water Plan Exposure Draft, GWMWater undertook extensive consultation with customers on specific initiatives to be undertaken through the regulatory period.

This consultation has taken place through focus groups and customer committees that have focused on the specific initiatives to be undertaken. The release of the 2008-13 Water Plan Exposure Draft was the first time GWMWater articulated the impact of the individual elements into a cohesive document that holistically represented the impact of anticipated costs, service levels into prices over the regulatory period.

The 2008-13 Water Plan Exposure Draft was issued to the Department of Human Services (DHS) and Environment Protection Authority (EPA). To the extent that this has given rise

to any changes in the underlying program over the course of the regulatory period these have been identified in the relevant sections that deal with water quality improvements or improved environmental outcomes.

The detail of the customer consultative model of GWMWater has been outlined in more detail in Section 5.1.4.

4.1.3 Board Performance

'GWMWater must annually review and report to the Minister and the Treasurer on the performance of the Board of the Authority.'

GWMWater is committed to good corporate governance with formal performance monitoring and assessment of each member an integral part of this governance framework. This is addressed by a combination of 'in house' and external review processes.

The assessment framework is consistent with the model established by the DSEs, 'Governance Guidelines for DSE Portfolio Statutory Authority Board Members – An Introduction to Governance and Government Stakeholders'.

4.1.4 Customer and Community Engagement

'The Authority must develop and implement open and transparent processes to engage its customers and the community in its planning processes to ensure among other matters, that the services it provides reflect the needs and expectations of customers.'

GWMWater interfaces with the community in many and varied ways which is critical to its continued success. Whether it is as a supplier, employer, constructor or the facilitator of the provision of recreational water, GWMWater will continue to pursue the goal of delivering the highest practicable and efficient level of service to the community. In achieving this, GWMWater has instigated a range of different community interfaces to facilitate community engagement.

Consistent with the broader policy commitment of government to community consultation GWMWater communicates with its customers is through it extensive Customer Advisory Group (CAG) structure. Accompanying this, GWMWater also has a substantial suite of other customer consultative processes to ensure that the community is adequately informed and consulted in decision-making processes affecting the region.

Many of the processes highlighted below have used to consult with customers during the development of the 2008-2013 Water Plan.

Customer Consultative Committees

GWMWater has 10 different active CCCs, including three D&S consultative committees, three urban consultative committees and irrigators and diverters' consultative committee. Approximately 150 representatives meet three to four times a year to discuss and make recommendations about their particular service or activity to the Board. At least annually,

a combined meeting is held to discuss broader issues that impact on all customers and make suggestions to the Board on their deliberations. A presentation of the Water Plan will be a key agenda item for the annual CCC meeting to be held July 2007.

Customer Reference Groups (CRG)

GWMWater relies heavily on customer input through the CRGs on specific local issues. Groups currently established represent Urban, Domestic & Stock, Irrigation, Diversion and Groundwater customers. Issues such as water quality, wastewater re-use, sewerage schemes, implementation of restricted water releases and development of pipeline options have all been investigated and evaluated by the CRGs.

The CRGs have been an effective mechanism to obtaining community input to local issues relating to water and or wastewater supply and these will be continued.

Key issues recognised by customers has been in the area of pricing and water availability. Specific issues faced by the region have resulted in the development of a number of special customer groups formed to tackle these important issues. These groups and their functions are highlighted below.

Pipeline Community Reference Group

The WMPP CRG was formed to represent community views and expectations regarding the project and the provision and quality of new services. The group meets regularly and monitors project development and implementation and make recommendations to the Board of GWMWater under the governance arrangements for the WMPP.

Reservoirs Review Stakeholder Working Group

The implementation of the WMPP will lead to a significant change to the future operation of the GWMWater reservoirs.

While significant savings in cost and water could be achieved by running reservoirs at lower levels or decommissioning some dams, social benefits such as recreation, flood mitigation and regional economic benefits from tourism need to be considered when deciding future operating arrangements.

The purpose of the Reservoirs Review is to identify the most advantageous operating arrangements for all of the headworks reservoirs and related assets following completion of the WMPP.

Rural Tariff Working Group

The RTWG was formed in order to consider and implement the observations and recommendations from a pricing review conducted by Marsden Jacobs and Associates (MJA) in August 2005 in relation to rural pricing and tariff design.

One of the biggest challenges for the RTWG has been to consider tariffs in the context of the design of the WMPP. Through the consultative processes of the RTWG, a three-part tariff was developed with this charge representing an Access (Capacity) Fee, Service (Meter / Tapping Fee) and a Volumetric Fee.

Urban Pricing Group

This Group support GWMWater in deliberations regarding urban prices. This group have met on a numerous occasions and support the current policy position of GWMWater to monitor progress on the implementation of the tariff rebalancing as it applies to urban customers. The Group also meet to discuss policy implications and positions held by the ESC in relation to urban tariffs and charges.

Irrigation Development Committee

This Committee was formed to provide advice in relation to the WIA and assist in the development of information to communicate to all relevant customers and stakeholders.

WMPP Landowner Liaison Group

WMPP Landowner Working Groups are special purpose working groups established to monitor landowner impacts and issues during the construction phase of the project. Their role is to advise on effectiveness of the landowner consultation process and represent community views and issues regarding the construction phase of the WMPP.

Drought Reference Committee

The Drought Reference Committee was established to review on a regular basis the status of all water resource systems across the region, make recommendations and ensure all relevant customer groups are appropriately represented and effectively consulted with.

The Committee comprises representatives from the rural and urban customer committees, DSE, the Victorian Farmers Federation (VFF) and the Wimmera and Glenelg-Hopkins Catchment Management Authorities.

'In relation to the provision of rural water services, the Authority must establish and support the operation of customer committees, having regard to any principles endorsed by the Minister for that purpose'.

GWMWater works within the framework of the 'Statement of Best Practice for the Operation of Rural Customer Service Committees'.

The role of customers in guiding the Board on key water supply issues has been valuable and these Committees have been pivotal to implementing many of the water supply efficiency initiatives that have been introduced.

The convergence of the water supply systems as a consequence of piping the water delivery system combined with the interdependence of the rural and urban communities of the region is giving rise to a review of the structure of these committees. This review is

aimed at achieving appropriate representation is formed on our customer committees to ensure that GWMWater appropriately addresses the needs of all customers whether they be urban or rural.

'The Authority Must:

a) Make available to the public, information about the water supply, sewerage and recycled water services it provides; and
b) Make available on request, information about the efficient and responsible use of water in respect of rural water systems; and
c) Make available to the public, information about water conservation and the efficient and responsible use of water in respect of urban water systems; and
d) Make available on request to schools in its area, educational materials about

i. The efficient and responsible use of water in respect of rural systems; and
ii. Water Conservation and the efficient and responsible use of water

At no charge or, for educational material that involves a significant cost to the Authority, in respect of urban water systems, at a charge that covers the fair and reasonable costs of making the materials available.'

GWMWater also provides substantial input to the regions educational institutions as well as providing educational material to the broader community. In addition to the direct input to schools other community consultation activities that GWMWater engage and educate its customers include:

- Customer Surveys;
- Customer Awareness programs;
- Field Day and Local Show Exhibits;
- Customer Newsletters;
- Website;
- National Water Week; and
- Educational Visits.

4.1.5 Managing Risks

'GWMWater must develop and implement plans, systems and processes, having regard to the Australian/New Zealand Standard AS/NZS 4360 – Risk Management to ensure that risks to the Authority's assets or services are identified, assessed, prioritised and managed.'

GWMWater's risk management system forms part of the governance framework and also incorporates elements of compliance and assurance.

The process provides a robust framework for managing risks based on the Risk Management Standard AS/NZS 4360.

The risk process is outlined in great detail in the 2007 Risk Management Plan and is updated annually. The plan provides a consistent and best practice foundation on which to identify, assess, measure, manage and report risks. The aim is to generate a list of

sources of risks and events that might have an impact on the achievement of each of GWMWater's objectives.

Risk management is shared across the organisation to assist in the identification and management of risks within each service group.

Risks are regularly reported to Board and the Audit Governance and Risk Committee. This risk management process assists the priorisation of capital and operating expenditure over this proposed water plan period.

The WMPP is a response to the most significant risk that GWMWater faces with secure water supply for the region. Conversely, the dominance of the WMPP introduces many other risks that need to be actively managed by GWMWater in this Water Plan period.

Risk management will continue across the business, with greater focus placed on the integration of risk management practices in strategic planning and capital expenditure delivery.

4.1.6 Responding to Incidents and Emergencies

'GWMWater must include in any plan, system or process to manage its risks, measures to deal ***with emergencies and incidents, including measures to deal with:***

(a) the disruption of services; and
(b) incidents resulting in waste discharges to the environment; and
(c) a dam failure; and
(d) potential security risks, including but not limited to terrorist attacks.'

Water supply and wastewater management is an essential service and, as a result, plans need to be in place to ensure the continuity of service in the event of unforeseen events.

GWMWater has an existing Emergency Management Plan (EMP) and reviews it regularly.

The EMP has been refined with experience gained and covers a wide range of operating risks. The EMP has been integrated with GWMWater's Environmental Management System (EMS), Integrated Management System (IMS) and the procedures associated with managing emergency events at GWMWater's major dams. The EMP was tested during the January 2006 bushfires as they swept through a large part of the Grampians National Park.

Further detailed assessment and review of the EMP occurred in November 2006, with two mock exercises testing the adequacy of a major dams safety incident and an organisation wide crisis exercise. The exercise, run by an independent crisis company 'Jim Truscott and Associates', reported in their close out; '*The Victorian Government should have complete confidence in the ability of GWMWater to control and recover from major emergencies and crisis situations. Indeed GWMWater have set a benchmark for excellence'.*

Incident and emergency response requirements of the SOO were deemed compliant in an independent audit conducted as a requirement of ESC annual performance audit data in September 2006.

GWMWater has developed a robust framework for business continuity from an IT management perspective. The Knowledge Strategy, amongst other activities is aimed at providing a secure IT environment and maintaining reliability and integrity to existing systems and data. A series of projects are programmed throughout the regulatory period to improve and maintain IT systems so that information and related services are secure and provide high levels of integrity, control and reliability.

4.1.7 Managing Assets

'The Authority must develop and implement plans, systems and processes to manage its assets in ways which:

(a) allow the Authority to supply its services sustainably; and
(b) maintain the levels and standards of service;
(i) specified by the Commission in a Code issued under section 4F of the Water Industry Act; or
(ii) included in a Water Plan approved by the Commission; and
(d) minimise the overall whole of life costs of assets; and
(e) minimise detrimental social, economic or environmental effects of managing its assets.'

GWMWater has an Asset Management Plan (AMP) that facilitates a robust and efficient planning process. Asset systems and processes provide a basis for all future decisions and investments in asset management.

Asset Lifecycle Plans (ALCP), prepared in conjunction with an independent consultant using robust and proven methodologies, form an integral component of the asset management framework at GWMWater. ALCPs have been developed for water network assets, water and wastewater treatment plants and sewer reticulation assets. Similar plans have been developed in- house for tanks, bores and meters to identify renewals profiles for each of these asset categories.

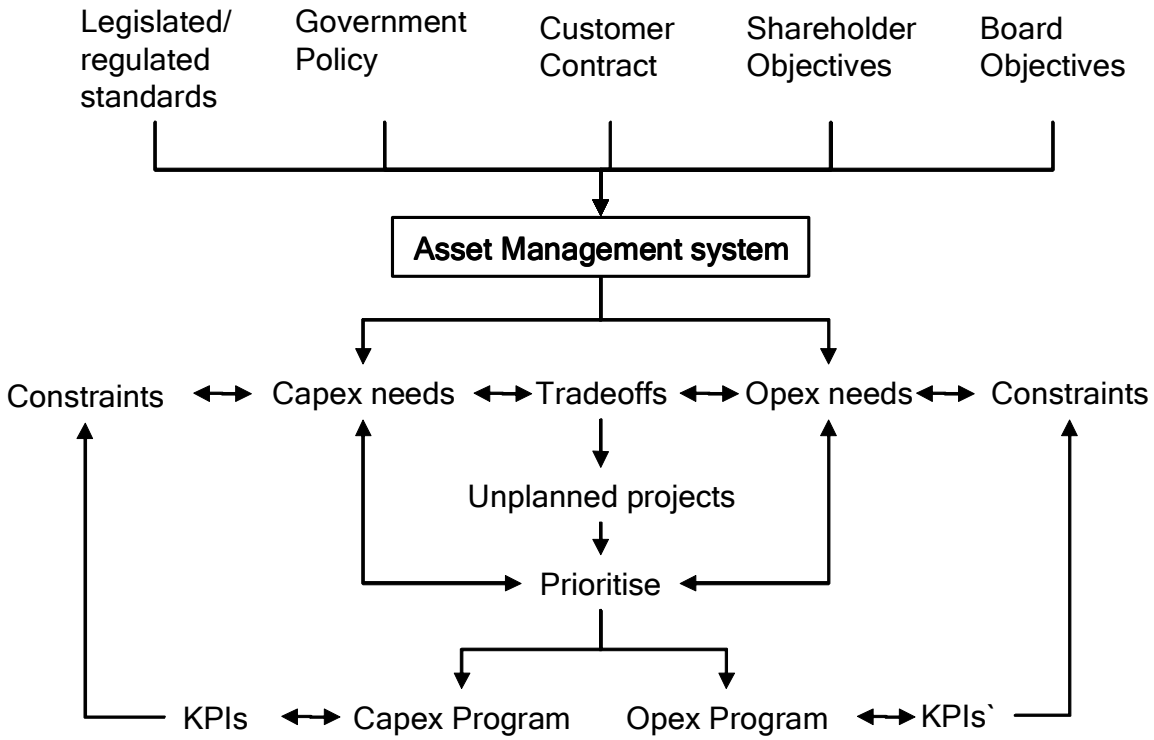
A range of additional operational information including Closed Circuit Television (CCTV) inspection for sewer pipes, and information on specific plants and assets, augmented the ALCPs outcomes and formed the basis of appropriate capital expenditure forecasts for this Water Plan.

The development of the draft Water Infrastructure Service Plan (WISP) and the draft Wastewater Infrastructure Service Plan (WWISP) also complement the AMP, to form solid strategic documents for the management of assets at GWMWater.

The WISP and WWISP assess the current status and operational processes of GWMWater's infrastructure in each of its supply towns. In the case of the WISP the infrastructure reviewed includes town storages, WTPs, water pump stations and town reticulation. The WWISP reviews WWTPs, pump stations and reticulation. Both adopt a risk management

approach to assessing future needs to ensure assets perform at a level to service standards are met. The asset investment needs identified in the plans reflect government policy, community needs as reflected in GWMWater's consultation processes and, in the case of water, the unconfirmed water quality improvements expected from the WMPP.

Figure 4.1.1: Framework used for developing capital and operating expenditure forecasts



The key challenges for asset management include the implementation of an Operational Control Centre (OCC) This will provide a hub for operational management of the GWMWater system and provide a central focus for asset performance data gathering. Asset performance data gathering will be enhanced through the ongoing rollout of SCADA systems and the implementation of a works/maintenance management system for planning, collecting and recording asset performance data.

The initiatives required to improve GWMWater's asset management practices have been identified in the GWMWater Asset Management Improvement Plan (AMIP).

The implications of these plans on the capital expenditure forecasts are further discussed in Section 7.

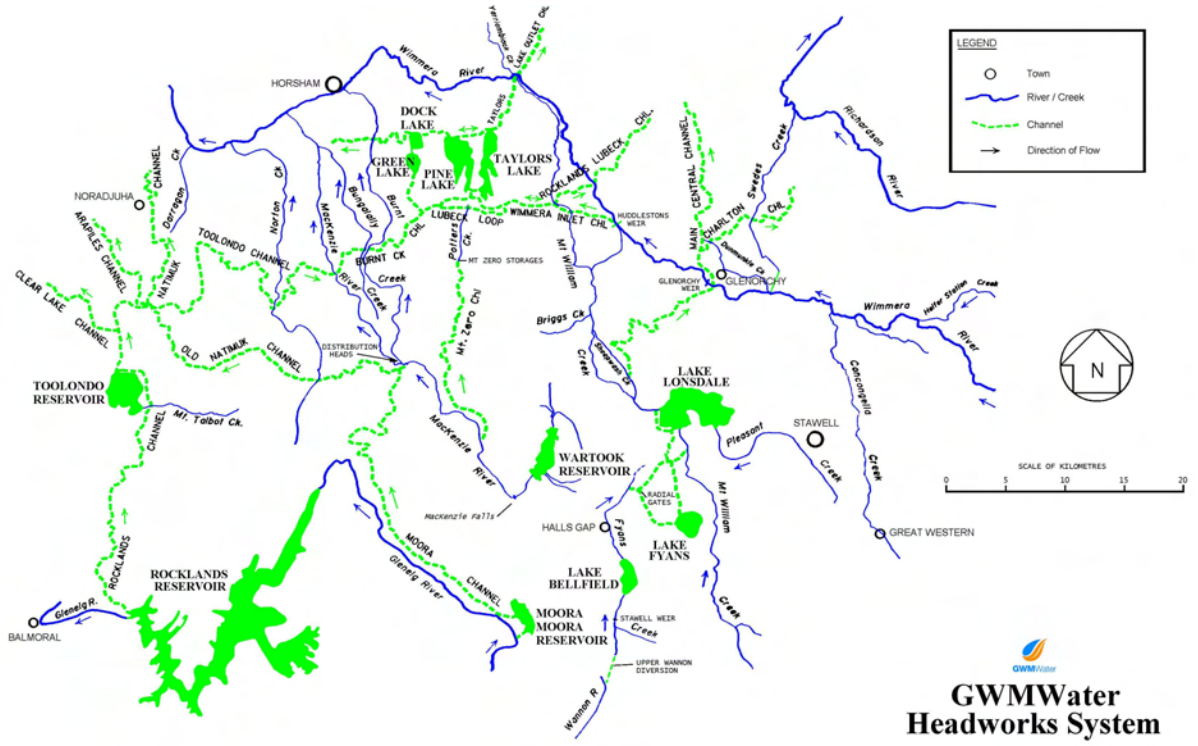
4.1.8 Dam Safety

'The Authority must develop and implement processes to identify, assess, manage, prioritise improvements to, and periodically review the safety of, dams operated by the Authority.'

GWMWater is responsible for the safe operation of 140 urban reservoirs, 12 headworks storages and some 74 wastewater earthen storages. 53 dams have been formally assessed and assigned appropriate hazard ratings. These are summarised as follows:

- 11 significant hazard dams;
- 13 high hazard dams;
- 24 low hazard dams; and
- 5 very low hazard dams.

Figure 4.1.2: GWMWater Headworks System



GWMWater has a process that monitors and manages the safety of its larger dams in accordance with the Australian National Committee on Large Dams (ANCOLD) guidelines. Reviews are regularly scheduled on a priority basis and reported to DSE.

In line with the assessment priorities, safety reviews have been completed for Taylors Lake and Rocklands Reservoirs and are being finalised for Pine, Fyans and Lonsdale. Once these are complete, safety reviews will have been undertaken for all high hazard headworks storages.

Reviews are also scheduled during the next regulatory period for Batyo Catyo, Dock, Green, Moora Moora and Toolondo. Based on initial desktop assessments, it is not expected that any significant work will be required, mainly due to the low embankments heights at each.

GWMWater has undertaken 'consequence of failure', 'hazard rating assessments' and 'business risk assessment studies' for all significant high risk urban water and wastewater storages. Remedial works identified at these facilities have been completed.

Progress continues with the remaining urban storages. The construction of the WMPP, however, will render a number of urban water storages redundant. The final impact on the urban storages will be assessed once the WMPP is complete.

4.1.9 Conserving and Recycling Water

'To develop and implement sustainable water resource management programs':

The Government's White Paper – 'Our Water Our Future' has a core theme of sustainable use of Victoria's water resources, in which conservation plays an important role. The emphasis on water conservation reflects its relative scarcity and acknowledges that water for new uses can be facilitated by improved efficiency.

Water conservation and sustainability is a critical and immediate issue for GWMWater and has been so for much of the last decade. This has been managed through the implementation of a coherent water supply and demand management strategy and a water conservation strategy.

During the prolonged drought and under influence of the GWMWater water restrictions by-law, GWMWater recorded a 30% reduction in water use over the summer of 2007 across the 39 regional towns currently on Stage 4 water restrictions.

Evaporation still remains the biggest user of water, with summer months evaporating up to 3 times more water from town storages than what the customers use. The WMPP will enable evaporation losses to be substantially reduced, with large amounts of the savings expected to be returned to local waterways as environmental flows.

The constraints on traditional sources of water have highlighted the benefits of recycled water as a water resource. Reclaimed water is an important ongoing water resource for enhancing regional horticulture and community and sporting facilities. GWMWater currently recycles 92% (excluding evaporation) of effluent produced in the region (Appendix 5). GWMWater will continue to utilise its 'Reclaimed Water Strategy', as a Triple Bottom Line framework for evaluating and implementing future reclaimed water schemes.

New recycling schemes, including infrastructure development are to be progressively implemented in the newly sewered towns of Hopetoun, Ouyen and Minyip, and at Dimboola and Nhill in conjunction with the upgrading of treatment plants. The scheme at Halls Gap will also be revised to enable more flexible management and full utilisation of available reclaimed water. These works are captured under the WWISP and several initiatives will be planned for delivering during this water plan period.

4.1.10 Water Supply Demand Strategy

'By 31 March 2007, and within each five years thereafter, the Authority must develop a water supply demand strategy to identify the best mix of demand measures and supply options for its urban supply systems'

The UWSDS has been developed and lodged with the Minister for Water, Environment and Climate Change. It provides for the sustainable use of water resources for the next 50 years across all urban towns of the GWMWater region.

The UWSDS consolidates actions to improve river health and address water shortfalls that may arise in coming years due to climate and population change and the possibility of continual lower than average inflows over the last 10 years.

GWMWater's urban supply for the majority of the Grampians and Mallee region will be met by the WMPP which will provide 96% security of supply for urban and rural customers. This will provide greater flexibility in meeting projected urban needs throughout much of the region.

The UWSDS is based on an expectation that per capita water consumption will be reduced over the regulatory period and beyond.

The UWSDS forms part of an overall strategy for managing water demand and supply in the region, which will be considered in the development of a Sustainable Water Strategy for Western Victoria. Other planning processes in place to manage the region's overall water resources include a range of Groundwater Management Plans (GMP).

4.1.11 Efficiency of Rural Distribution System

'GWMWater, in consultation with the Department, develop and implement programs to assess the efficiency of the Authority's rural distribution systems'

The WMPP will enable GWMWater to meet this compliance obligation. The WMPP will greatly improve distribution efficiency and assist customers achieve more sustainable patterns of consumption. The water savings resulting from the WMPP will enable GWMWater to exceed the 25% distribution efficiency targets.

Specifically, water savings of 103,000 ML/year are expected to be made by the WMPP. Of this volume, 20,000 ML will be made available for regional growth, and the balance to the environment.

This will substantially improve the health of the waterways of the region and improve the environmental and social amenity generally.

4.1.12 Metering

'GWMWater must meter all new:
a) urban water supply services

b) water use under groundwater or surface water licences with volumes as specified in sub-clauses 18.2 and 18.3 of this Statement prior to the use of any water by the licensee.'

All new urban customers connect to GWMWater's system through a consent process. The payment of a connection fee incorporates the provision of a domestic water meter.

The White Paper sets out a requirement that all commercial diversions from farm dams and stream diversions be metered within two years for catchments with a Streamflow Management Plan (SFMP) and three years for other catchments. This represents a major program for GWMWater, as there are a large number of existing stream diversions that will need to be metered.

GWMWater has developed and implemented a metering program that addresses meter installation, accuracy testing, meter reading and replacement. This process was hampered due to the preceding period of extended drought with many diverters having had no access to water for the previous five years.

Some concerns that need to be overcome are that a number of customers do not have permanent pump installations suitable for metering and, in other cases, licences have not been active for many years. In the area managed by GWMWater there were about 50 groundwater and 100 stream or river diversion sites that required metering.

4.1.13 Responding to Drought

'In respect of each urban water supply system operated by the Authority, the Authority must:
a) develop and implement an effective drought response plan; and
b) make its drought response plans available to the public.'

Analysis of the reduced inflows that have occurred since 1996 indicates that the Wimmera-Mallee region has experienced an event which has possibly a one thousand year recurrence interval, and at this stage, there is no obvious end to this period of critical water shortfall.

Responding to drought has been a significant activity of the first regulatory period. Apart from fast tracking the delivery of the WMPP as a drought response initiative, GWMWater continues to manage the drought through a number of processes and does so in consultation with relevant agencies such as CMAs and Local Council.

Drought Reference Committee

The Drought Reference Committee monitors and reviews water resource systems across the region and allocations available to each customer group. They are represented by a large range of stakeholders and recommend to the Board appropriate water management measures to ensure ongoing water supply to each customer group at equitable and appropriate levels.

Managing Limited Rural Supply

GWMWater has continued to carry out a modest maintenance program of the channel system to ensure that, under restricted supply conditions, channels operate as efficiently as possible.

In 2006, the limited water resource enabled only town storages to be supplied in the bulk of the channel system area.

No supply was provided to farm dams, with the exception of the area commanded by the Waranga channel, where GWMWater was able to supply town storages and about 30% of farm dams, on the basis of one dam per 400 ha of property.

After a significant public consultation, assisted by the Victorian Farmers Federation and Wimmera Uniting Care (providing advice on stress management and possible related issues arising from the current situation) in October 2006, GWMWater initiated its water-carting program. This program included the provision of a basic water supply to rural customers of 28,000 litres every second month. Water was delivered directly into tanks at each eligible property and additional water was made available for carting by rural customers for crop spraying and livestock watering free of charge from selected regional storages. Rural customers were however responsible for the cartage costs associated with obtaining this additional water.

So far, the program has been estimated to cost GWMWater $2.5 Million and will continue until GWMWater's sources of supply recover to sufficient levels. This program was not budgeted for and represents a significant change to the first Water Plan.

Restricting Urban Water Use

GWMWater has adopted the standard statewide four-stage restriction policy and the permanent water saving rules. GWMWater also maintains its urban restriction policy consistent with the overall allocation framework of water supply under the BE framework. Further details on the towns currently on restrictions are outlined in Section 6.8.

GWMWater Contingency Plans

Detailed contingency plans have now been developed for each town in the region. Investigations into groundwater resources in the Beulah, Birchip, Natimuk, Rainbow and Wycheproof areas commenced in mid February 2007 as part of its ongoing contingency water supply planning for the region. These investigations follow on from work undertaken in the Donald and Hopetoun areas during January 2007.

Investigations at these towns were aimed at providing an alternative water source to these towns, should inflows to the regions bulk water supply reservoirs prove insufficient to enable a channel supply in 2007.

This includes identifying possible sites for treatment plants and potential brine disposal locations as it is anticipated that any groundwater resource in the area utilised by

GWMWater for urban water supply purposes would require desalination. GWMWater has involved the EPA in the project to ensure requirements of the State Environment Protection Policy 'Groundwaters of Victoria' are appropriately considered. Contingency works have been planned at Donald at a cost of up to $1.8 Million, but these works were subsequently deferred in July 2007 when it was confirmed that a channel supply could be made available to Donald.

Drought response plans will be reviewed annually at an estimated cost of $20,000/annum

Supplementary Bore Supply

During 2006, GWMWater developed an existing bore at Laharum to supplement supply to the Horsham urban water supply system, via the nearby Mt Zero water treatment plant. The system has initially provided a volume of 1.2 ML/day to the urban supply system that would have otherwise been provided from Wartook Reservoir.

Work is now in progress to upgrade this system to at least 6 ML/d to provide an alternate supply to Horsham, both to assure supply to Horsham and to supplement the volume available to other parts of the system from Wartook reservoir.

Emergency Bores

GWMWater has established, under DSEs direction, the North West Local Steering Group, comprising primarily Council representatives, to rehabilitate and implement additional emergency water supply bores throughout the region. The group was initially successful in receiving $1.1 Million of an initial statewide budget, with a further $0.6 Million received early in 2007. Expenditure is projected to $1.9 Million at the end of 2006/2007.

A total of 49 emergency bores throughout the region are currently in the process of being recommissioned for rural supply (June 2007). A further 17 sites for new bores have been identified and work will commence on these in the near future.

Murray Supply System

GWMWater has been participating in a statewide program through DSE reviewing water availability for the Murray system for the 2007/2008 supply season. GWMWater has planned a range of complementary contingency supply measures for its Murray supplied systems and these include:

- Increasing water restrictions to Stage 4 in all Murray supplied towns and seeking complementary reduction in rural use;
- Carrying over some temporary entitlements acquired on the water market into 2007/2008;
- Using evaporation control initiatives aiming to reduce losses by up to 30% at town storages;
- Operating NMP storages at a lower level to further reduce evaporation and seepage; and

- Investigating the use of Walpeup West bore system to supplement the NMP if the salinity of the water is of acceptable quality.

The current extreme drought could lead to a requirement to secure temporary water for supply, but at this stage the probability of this occurring is low-moderate.

Mt William and Streatham Bore Development

The groundwater bores in the Mt William supply region were significantly affected by the 2006 Grampians National Park bushfires and are also another causality of the drought.

The bores generally supply the towns of Willaura and Lake Bolac via three bores over summer months and convert back to surface water from the Grampians National Park in winter, when there are sufficient flows. During the drought, however, more reliance has been placed on the bores with the water table lowering and reduced yields resulting in a significant reduction in supply. As a result, two extra bores were required to ensure continuity of supply to these towns, not as a result of increased demand.

A similar exercise was required at Streatham to install an new extra bore to supplement lower yields being experienced in the southern parts of the GWMWater region.

Other Drought Actions Being Considered

GWMWater has purchased additional temporary water from the Waranga system to ensure supply to towns in that area can be achieved during the May-June 2007 channel run in that area. This has involved the purchase of 700 ML on the Watermove market, at a total cost of $303,000.

The delivery of Supply System 2 of the WMPP has been fast tracked to supply a number of towns currently supplied from the channel system. Water piped to town centres can also be used for water carting for rural customers

The use of chemical barriers on open town storages to reduce evaporation losses has also been trialed.

During the Water Plan period GWMWater will have an ongoing program of review of the Wimmera Mallee BE system, driven by the implementation of the WMPP and the associate reconfiguration of the operation of the Wimmera Mallee headworks system.

Technical and administrative support for these activities are considered cosre activities and subsequently funded within general operational costs outlined in this Plan. No further augmentation works are identified as drought response initiatives other than those identified in the capital expenditure section of this document.

4.1.14 Sewerage Services to Unsewered Urban Areas

'The Authority must participate with municipal councils in the development of domestic wastewater management plans.'

The policy framework for the introduction of sewerage schemes into small towns is aimed at improving the social and environmental health objectives that can be achieved by the construction of a reticulated sewerage system.

Local Government and the EPA currently substantiate the want and need for sewerage and secure community support for a scheme. Water authorities become the service provider once the basis for a scheme is established. Specific sewerage programs in the GWMWater region that have been identified under the $42 Million CTWSSP include Lake Bolac, Rupanyup and Great Western.

GWMWater will continue to work with the Ararat Rural City, Northern Grampians Shire and the Yarriambiack Shire Councils' to identify options for reticulated sewerage at these three towns. Funds from the CTWSSP will not be sufficient to fully fund these schemes, and GWMWater will provide the $4 Million expected to be required to fulfill the obligations to Government.

4.1.15 Sewerage Connections to Properties

'The Authority must take all reasonable steps to ensure that a property provided with a sewerage service…'

A sewerage management plan developed through consultation with the Horsham Rural City Council, EPA and the local community, resulted in a sewer infill program scheduled for Horsham South at an estimated cost of $0.8 Million. The sewerage management plan identified an unacceptable health and environmental risk to the local environment. The cost will be fully recovered through Horsham Rural City Council.

Sewer infill programs have also been scheduled at Halls Gap, Dimboola and Nhill at an expected cost of $1 Million. The sewer infill programs are programmed for completion at the later part of the regulatory period and will undergo further community and stakeholder consultation.

Several applications from individual residents have also demonstrated that wastewater on their blocks can be sustainably used on site in accordance with guidelines issued by the EPA and the residents have separate permits with council for its use.

4.1.16 Trade Waste

'GWMWater must develop policies and practices to manage trade waste…'

The effective management of trade waste is integral to protecting GWMWater's sewerage infrastructure. It also ensures that the quality of waste can be effectively treated to allow its beneficial reuse. The Trade Waste By-Law and Policy regulates customers with waste loads that present a risk to GWMWater systems and/or the environment.

Trade waste is managed within two broad categories, minor and major. Minor trade waste customers are generally non-residential customers producing relatively small volumes of low strength waste compared to manufacturing plants. A comprehensive survey and inspection program commencing in 2005 targeted over 1000 non-residential

businesses. The program, since being completed, has identified a total of 565 minor trade waste customers and 11 major industrial and manufacturing plants.

Agreements are now in place with all 565 customers. Non-compliant premises have been advised of their compliance obligations in relation to pre-treatment and at 31 April 2007, only 60 customers remain non-compliant. Work is continuing to allow voluntary compliance with the by-law, with the next phase to enforce pretreatment connections using GWMWater's legislative powers.

An inspection and maintenance program now forms an integral part of minor trade waste management.

There are 11 major trade waste customers managed and monitored under separate, individual agreements.

4.1.17 Regional and Local Government Planning

'GWMWater must participate in and support the development and implementation of any Regional Catchment Management Strategy or catchment sub-strategy or Regional River Health Strategy which may affect, or be affected by, the Authority's activities.'

GWMWater actively participates with local municipalities and catchment management authorities in relation to the future development of urban and rural planning schemes within the region to ensure that infrastructure is maintained at a level appropriate for the future needs of the community.

A collaborative planning approach, as demonstrated by the WMPP, will be central to maximising the growth opportunities from savings generated after its construction. Opportunities are expected to arise within the fringe of urban areas, with potential access to regulated and non-regulated supplies, and to a lesser from extent reclaimed water for niche industrial developments. Such development will require additional water and wastewater infrastructure to be developed by proponents in consultation with GWMWater. Within this setting a logical framework for pricing is required which recognises supply security, quality and capacity constraints, and is sensitive to the demand for different water products.

Perhaps the most significant activity to be undertaken over the next few years is the development of a Sustainable Water Use Strategy. The WMPP already provides for this in part, but there are areas that are presently outside the current footprint of the channel network that need to be further considered. This will include the review of connectivity between the Goulburn/Murray system and the Grampians system in the North East corner of the GWMWater service area. GWMWater will continue to provide input as required. This will require collaboration with many local and regional stakeholders.

4.1.18 Research and Development

'The Authority must:

a) identify the Authority's research needs;

b) prioritise the research needs identified;
c) identify how the Authority proposes to meet its research needs.'

GWMWater's Research and Development (R&D) program has been specifically designed and developed to promote research in innovation and capability building.

The R&D cuts across numerous obligations and includes issues outlined in the White Paper, *Our Water Our Future*, and Our Environment our Future – Sustainability Action Plan and *Sustainable Management* principles in the SOO.

Each of the projects identified in the R&D program have been developed under the following framework.

- All R&D activities should be expected to deliver definable benefits to GWMWater.
- Wherever possible, proactive participation in R&D projects through collaboration with alliance partners is preferred.
- R&D is to be focussed on priority business areas/processes using an established set of criteria.
- Assets created as part of R&D activities become assets of the GWMWater.
- Where appropriate, GWMWater personnel should participate at the project management level and assist with direction of projects to assist in the transfer of knowledge through to staff.
- Actively promote and form relationships and networks with other water businesses, higher education institutions, public and private sector organisations to share knowledge and establish alliances that enhance the ability to source research funds.
- GWMWater commits funding to the R&D budget to facilitate financial contribution in research projects with other alliance partners.

GWMWater is committed to the concept of developing alliances with educational institutions, the private sector and public sector using the principle 'that the sum of the individual partners is far greater if a unified approach is adopted'.

GWMWater has estimated that nearly 20 local, national and international partners will be involved in the delivery of the $1.9 Million R&D program budgeted for the five years of the regulatory period. Projects focus on water quality improvements and the impact of climate change on water and energy management.

4.1.19 Sustainable Management

'The Authority must …in performing its functions, exercising its powers and carrying out its duties, apply the Sustainable Management Principles'

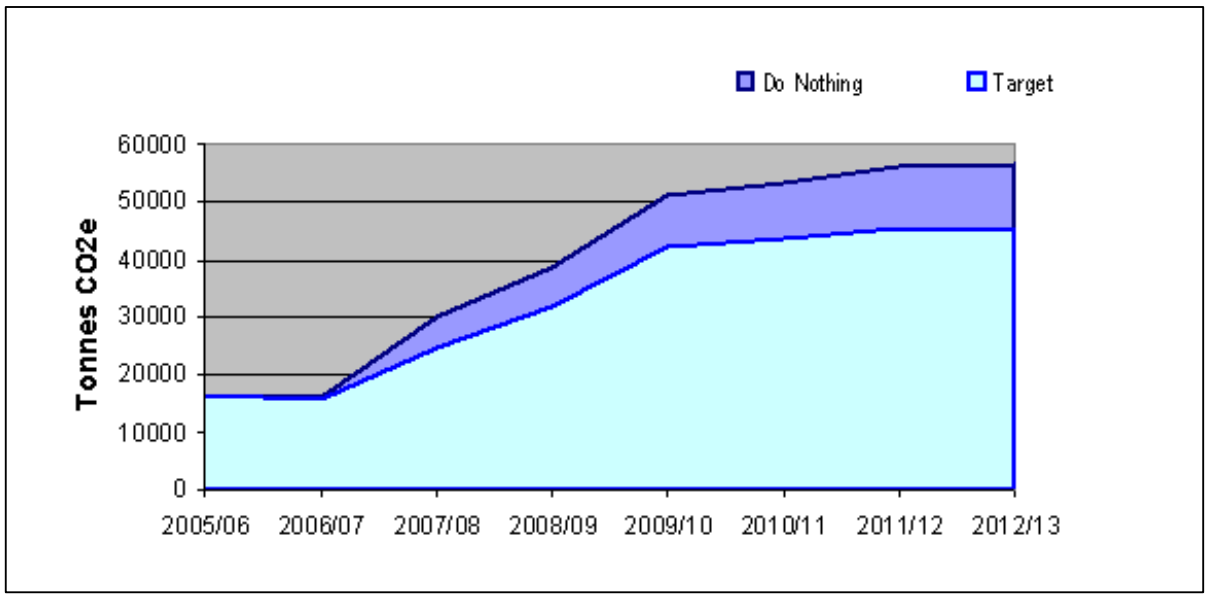
GWMWater's Sustainability Framework and Strategy is underpinned by the sustainable management principles outlined in the SOO. The Sustainability Framework establishes the goals and objectives for integrating sustainability into every aspect of the business operations, strategies and culture. These are reported under economic, environmental, social and governance categories.

The Sustainability Strategy defines the detailed actions necessary for the business to become more sustainable, become a leader in sustainable practices and move beyond compliance.

GWMWater's greenhouse gas emissions are predicted to more than treble in the life of the Water Plan as a result of the WMPP coming into operation.

GWMWater's greenhouse plan includes a range of measures to reduce direct emissions from energy use and increase emissions offsets. The ultimate goal is to reach the point where GWMWater operations are carbon neutral, where the volume of greenhouse emissions is completely offset by measures to reduce emissions or store carbon somewhere else.

Table 4.1.1: Projected Greenhouse Gas Emissions.



This may be achieved through improved metering, energy efficient pumps, demand management, optimising pipeline operation and workplace awareness. Offsets may also be purchased through accredited abatement schemes and traded where appropriate.

Further energy savings may be achieved through the integration of full life-cycle assessment into detailed capital works planning. There may also be opportunities for generation of renewable energy through augmentation of existing and proposed works, most likely for export to the grid. These measures are to be further investigated during the regulatory period.

GWMWater will contribute to the maintenance of natural assets and biodiversity by returning an average, 83,000 ML/a of water to Government for the regional waterways and Murray River system once the WMPP is constructed. GWMWater will continue to work closely with CMAs to ensure the effective and practical delivery of the Environmental Water Reserve to maximise ecological benefits.

GWMWater has also effectively eliminated the majority of wastewater discharges to natural waterways and will continue to work to eliminate all during the next regulatory period.

GWMWater will further integrate environmental considerations into planning for new projects or decommissioning existing works through adoption of sustainability-based methodologies such as life cycle assessment.

GWMWater will achieve more efficient resource use through a range of initiatives such as:

- Implementation of the WMPP;
- Replacement of meters and aging distribution infrastructure;
- Energy and greenhouse emissions management;
- Implementation of SCADA systems to improve monitoring and system management; and
- Meter calibration and improved leakage detection.

The Sustainability Strategy recognises the importance of reducing the environmental impact of GWMWater's activities as well as empowering individual staff and customers to contribute to improved sustainability.

GWMWater has established a Sustainability Working Group to coordinate sustainability programs across the business. This group is supported by a network of workplace sustainability champions responsible for encouraging staff to adopt measures to improve sustainability, including energy, water, greenhouse and waste management initiatives. GWMWater will develop a range of sustainability tools, such as life cycle assessment, to enable triple bottom line analysis of projects and purchasing. A number of tools are being developed across the water industry. It is anticipated that minor funds will be required for capital expenditure, with the majority cover through operational expenditure.

Customer education programs will continue to promote efficient water use as way of conserving both water and energy.

4.1.20 Environment Management System

'The Authority must develop and implement an Environmental Management System …'

A revised EMS is currently being developed as a primary tool for improving environmental and broader sustainability performance. The EMS will be in accordance with the AS/NZS ISO 14000 Standard series.

The EMS will be effectively delivered through integration with other business systems. The EMS will ultimately interface with the proposed OCC, enabling efficient response to incidents, environmental data acquisition, and informing the continual improvement of the system. Integration will the OCC will require the commitment of specialist resources, EMS related training and acquisition or development of appropriate software tools.

4.1.21 Blue-Green Algal

'The Authority must report any blue-green algal blooms impacting on water supply services ….'

In the region, GWMWater has been designated the convening agency for coordination of BGA outbreaks. The presence of BGA in water bodies can require a range of management actions depending on the density of organisms present and their toxicity.

A number of BGA outbreaks in water storages have occurred in the past with one notable case occurring at Wycheproof. GWMWater held an extensive investigation into the incident and as a matter of course, the monitoring program to detect the incidence of BGA and response plan have been reviewed and upgraded to respond quicker in the event of future BGA outbreaks. GWMWater's BGA response plan forms a component of the EMP and is updated regularly.

4.1.22 River and Aquifer Health

'GWMWater must manage the impact of its activities on any waterway or wetland to minimise environmental impacts on and risks to the aquatic ecosystem.'

It is recognised that the regulation of rivers and streams and associated diversions, has a detrimental impact on river health. GWMWater manages the impacts of its activities through active monitoring programs, environmental assessment of works and the delivery of environmental flows. The Corporation will continue to improve its close working relationship with CMAs to ensure environmental flows are delivered effectively and in accordance with the 'flora and fauna' BEs. The costs to achieve this have been incorporated into the operational forecasts of this Water Plan.

The refurbishment of the Huddleston's Weir, funded by the Wimmera CMA, has considered requirements for passage of native fish species. This weir is the most important diversion point from the Wimmera River to the GWMWater supply system. Minor works on waterways and acquifers will be conducted during the 5 years and done so in consultation with CMAs and key stakeholders.

4.1.23 Monitoring River Health

'The Authority must monitor the impact of its activities on waterways and wetlands, including the impact of dams on the thermal regime of waterways.'

An environmental monitoring program has been prepared and submitted to DSE in response to the Wimmera and Glenelg BE requirement to assess and manage the environmental effects of operating the weirs and storages. GWMWater will continue to monitor, through the existing dam safety monitoring program, bed and bank erosion downstream of all structures and where necessary carry out repairs.

Under the monitoring program GWMWater will collect regular salinity and temperature readings from the surface of all reservoirs and from released waters. Continuous temperature monitoring will be implemented for Rocklands Reservoir and Lake Bellfield. The current program for algae monitoring and alert procedures will continue.

Monitoring data will be made available through the Victorian Data Warehouse.

4.1.24 Capital Contributions by Property Owners

'GWMWater must offer the owner of any property who is required to make a contribution to the present day cost of works for the provision of reticulated sewerage services under section 268(1) of the Water Act 1989 the option of paying that contribution in equal installments over 20 years as an annuity calculated by reference to the 20-year market annuity rate, as determined by the Treasury Corporation of Victoria, prevailing at the time the contribution is calculated.'

Traditionally this section has related to sewerage schemes, however in the context of the WMPP capital contributions from customers will come in the form of on-farm works. GWMWater will provide services to the customer's farm and all ancillary works and storage requirements will be a direct expenditure by the customer. This was identified and represented in the original business case for the WMPP and will in many cases lead into thousands of dollars. GWMWater are working with customers to minimise any negative impacts.

Sewerage schemes of Hopetoun, Minyip and Ouyen have been constructed and approximately 20% of customers have elected to contribute over a 20-year period. Other customers have elected to meet the costs upfront.

GWMWater is working with the EPA, Northern Grampians Shire Council (NGSC), Ararat Rural City Council (ARCC) and Yarriambiack Shire Council (YSC) to investigate sewerage options in Lake Bolac, Great Western and Rupanyup. Discussions will involve how property owners will contribute to the capital works of these schemes in line with this policy position.

4.1.25 Providing Concessions and Rebates

'GWMWater must administer the following Government funded programs, as applicable, in accordance with their respective requirements:

a) Utilities Relief Grants Scheme;
b) Concessions for water service and usage charges and sewerage service and sewage disposal charges;
c) Water concession on Life Support Machines – Haemodialysis;
d) Hardship Relief Grant Scheme (Sewerage Connection Scheme); and
e) Water and Sewerage Rebate Scheme.'

GWMWater presently delivers these Community Service Obligations (CSOs) on behalf of Government as an integral part of its customer service operations. In addition to the specific government funded programs, GWMWater provides many other CSOs not formally funded. These are embedded cross-subsidies that arise from the adoption of uniform pricing policies across the service region.

GWMWater is providing close to $2 Million in concessions and rebates each year under CSOs. The majority of the 10,000 plus urban pensioner and concession cardholders

account for this ($1.5 Million in 2005/2006), as well as those under the Water and Sewerage Rebate scheme.

The uptake of urban water saving rebates has been reasonably received with products from 1 July 2006 to 17 May 2007 outlined below.

- Permanent grey water systems - 45
- Tank rebate - 140
- Dual flush toilet - 49
- Pressure washer - 1
- Showerhead - 21
- Large tank rebate - 43
- Basket offer - 158
- Tank to toilet connection - 2
- Water conservation audit - 0

The Government's rural tank rebates processed as at May 2007 were 1,068. The value of rebates paid was $2.4 Million.

4.1.26 Smart Water Fund

'The Authority must participate in the Smart Water Fund.'

The Smart Water Fund was established to encourage and support innovative development of water, biosolids, recycling and water saving projects within the community. GWMWater actively supports the Fund and its objectives through local promotion and community advocacy.

4.1.27 Complying with Obligations

'The Authority must monitor compliance with its obligations under Parts 4 to 7 inclusive of the Statement of Obligations.'

Compliance with the SOO has been given due recognition in the resourcing of the Regulation and Assurance Division of GWMWater. This Division is responsible for monitoring organisational risk and ensuring compliance with regulatory and legislative obligations.

Many of the sections of the SOO were subject to independent audit in 2006, with acceptable audit outcomes achieved, with one exception for dam safety, where urban reporting requirements necessitated additional work being undertaken.

4.1.28 Compliance Audits

'GWMWater must, when requested by the Commission, at intervals of not more than once in twelve months, arrange for an audit of its compliance with:

a) clause 13 of this Statement, and

b) such other obligation under Parts 4 to 7 of this Statement that the Commission has been requested by the Minister to audit.'

GWMWater recognises the accountability requirements of the regulatory framework and has a specific 'audit charter' with an ESC nominated and approved external auditor contracted to provide independent Regulatory Audit services. These annual audits report directly back to the ESC who benchmark GWMWater in relation to all other water businesses across Victoria for public scrutiny.

Audits were conducted in 2006 on GWMWater's performance against Dam Safety, Emergency and Incident Response, River Health, Managing Risks and Managing Assets. Only Dam Safety is required to be audited in 2007.

4.1.29 Other Audits and Reviews

'GWMWater must, when requested by the Minister, after consultation with the Treasurer, arrange for an audit or review of any matter specified by the Minister in relation to the performance of its functions and the exercise of its powers.'

Both DHS and EPA are proposing performance audits on the delivery of GWMWater's capital expenditure program as it relates to water and wastewater services. Provision has been made for these costs in this Water Plan.

4.2 Environmental Obligations

EPA released their; 'Principles to Establish EPA Environmental Obligations for Water Businesses for the 2008-2013 Pricing Determination', in November 2006 to offer clarity regarding their requirements for the 2008-2013 Water Plan submission. The purpose, principles and obligations set out in the paper have been used to prepare GWMWater's Water Plan and are described in detail below.

The key documentation covering EPA requirements are the WWISP, AMP, ALCPs and the Sustainability Strategy. Ensuring compliance with key environmental legislation, policies and guidelines has been instrumental in the development of the WWISP and associated programs and have been used to assist in the development of the capital expenditure program.

The estimated cost of capital works over the Water Plan period for activities highlighted in the WWISP is estimated to be in the order of $19.2 Million. Apart from legislative requirements, the following was considered in deriving the level of expenditure required for this Water Plan period:

- Full attainment of SEPP (Waters of Victoria (WoV)) by 2013;
- An increased focus on sustainability and resource efficiency (using the waste hierarchy as a key principle driver);
- Integrating existing policy directives, eg White Paper, Sustainability Framework, and SOO;
- Consultation with customers and community stakeholders;
- Identifying risks and issues facing the water industry; and
- Learning from the previous regulatory process.

GWMWater has been negotiating with EPA to renegotiate all 25 WWTP discharge licences. The majority of GWMWater's sites now reuse available recycled water and are

subsequently being updated to better reflect its end use and risk to the environment. Where WWTPs do not currently comply with all conditions of discharge licences, upgrades or alterations have been identified in the WWISP and will be progressively implemented to achieve compliance during the regulatory period.

The White Paper Actions – Our Water Our Future, and SEPP (WoV) place a number of other environmental obligations for irrigation, environmental flows, groundwater management and waterway management, including releases from storages.

4.3 Water Quality Obligations

Thirty-three of the 74 towns serviced by GWMWater rely on a bulk supply from the Grampians headworks. The water is delivered by an open earth channel network that generally only provides for one bulk delivery of water per year. Eight of the 33 towns receive a fully treated water supply, whilst a further 11 are supplied with water that is chlorinated (no filtration). Fourteen small towns receive untreated water supplies.

GWMWater currently provides fully treated water to 77% of its customers across 19 towns. This is a significant improvement from 1998 when only 28% of customers received fully treated water. A further 16 towns are supplied with water that is disinfected as their only source of treatment and a further 39 are classified regulated.

Other urban centres receive their water from a combination of surface water diversions and groundwater extractions. The larger towns invariably receive a fully treated water supply or have the water supply disinfected to meet microbiological water quality standards.

The majority of D&S customers also receive water supplies from the Grampians Headworks delivered by an open channel network. Of the water supplied to D&S customers, only supplies from the NMP system receive any form of treatment and this is coarse filtration at the point of extraction from the River Murray.

Towns/Localities supplied fully treated water (Drinking Water)

Ararat	Edenhope	Hopetoun	Pomonal	Ouyen
Birchip	Great Western	Horsham	Rainbow	Warracknabeal
Charlton	Halls Gap	Lake Bolac	St. Arnaud	Willaura
Dimboola	Haven (Horsham)	Murtoa	Stawell	

Towns Supplied Disinfected-only Water (Drinking Water)

Beulah	Lalbert	Quambatook	Walpeup	Wycheproof
Brim	Manangatang	Rupanyup	Warracknabeal	
Donald	Minyip	Sea Lake	Watchem	
Jung	Nullawil	Ultima	Woomelang	

Towns supplied untreated water (Regulated Water)

Antwerp	Culgoa	Kiata	Natimuk	Tarranyurk

Apsley	Dooen	Lascelles	Nhill	Tempy
Berriwillock	Elmhurst	Lillimur	Noradjuha	Underbool
Buangor	Glenorchy	Marnoo	Patchewollock	Waitchie
Chillingollah	Goroke	Miram	Pimpinio	Westmere
Chinkapook	Harrow	Moyston	Serviceton	Wickliffe
Clear Lake	Jeparit	Murrayville	Speed	Yaapeet
Cowangie	Kaniva	Nandaly	Streatham	

Water quality obligations in Victoria are regulated by DHS through the following legislation and guidelines:

- Safe Drinking Water Act 2003;
- Safe Drinking Water Regulations 2005,
- Health (Fluoridation) Act 1973;
- Food Act 1984; and
- Australian Drinking Water Guidelines 2004 (the ADWG).

The SDWA and SDWR are the main driving force for public health policy associated with drinking water quality in Victoria. The SDWA contains a comprehensive statewide regulatory framework for managing drinking water supplies. The regulatory framework advocates a risk-based approach, with standards for nine parameters to be implemented through statutory regulations. GWMWater is defined as a supplier of drinking water to the public in terms of the SDWA. A comprehensive program of analysis and sampling of water supplies underpins the SDWA.

As the SDWA distinguishes between 'drinking' water and 'regulated' water, many towns supplied by GWMWater may now require additional water treatment if they are to be classified as suitable for drinking purposes, including existing supplies that are presently disinfected.

In response to this legislative requirement and in the development of the Water Plan, GWMWater has:

- Prepared and implemented 'catchment to tap' risk management plans for drinking water supplies and some regulated water systems;
- Incorporated the provision for the auditing of those plans by approved auditors during the regulatory period;
- Prioritised programs to meet quality standards outlined in the SDWR for drinking water;
- Disclosed to the public information concerning the quality of drinking water;
- Reported all known or suspected contamination of drinking water to the Secretary of DHS and continued to publicly disclose information through annual drinking water quality reports.

The WISP is the basis for identification, determination and planning of works for water quality improvements that covers the five-year period from 2008. In preparing the plan, due consideration has been given to expenditure required to address risks with all water supply arrangements and those outlined in the individual risk management plans.

Upgrades and operations of water treatment plants, disinfection only facilities and regulated towns have also been addressed and prioritised in the WISP.

DHS has raised the possibilities of regulating the process of collecting drinking water samples and specifying analytical methods to be used to analyse such samples. GWMWater has spent considerable time and resources to improve its water sample collection processes and any such new obligation is unlikely to have significant financial implications on the business.

Some of the other water supplies consistently fail to meet the water quality standards as set out in the SDWR. Under section 30 of the SDWA, the Secretary of DHS may accept a written undertaking in respect of a contravention of the Act, which provides protection to a water supplier against prosecution. GWMWater has either entered into, or is seeking to enter into, undertakings for most of these towns.

For further details on these undertakings and capital expenditure related to water assets, refer to Section 6.2 on Capital Expenditure.

4.4 Other Obligations

GWMWater recognises both the impact of climate change on its operations and the contribution that those operations make to greenhouse gas emissions through the use of fossil fuels. GWMWater is a member of the Sustainable Energy Use Water Industry Working Group that has established an agreed framework for reducing greenhouse emissions.

The framework commits GWMWater to:

- Setting voluntary targets for greenhouse emissions reduction and renewable energy generation; (see Sustainable Management section)
- Developing and implementing an emissions reduction plan; and
- Working closely with other water corporations to share knowledge.

As part of the EPA review of the Environment Protection (Scheduled Premises and Exemptions) Regulations 1996, a number of initiatives have been introduced or signaled that will impact on GWMWater operations.

- GWMWater will have the capacity to negotiate a single 'corporate licence', amalgamating licences for different premises;
- Uniform compliance reporting requirements will be introduced through a single annual 'performance statement'; and
- Changed definition of 'scheduled premises'.

Large industrial and commercial users of energy and water will be required to develop Environment and Resource Efficiency Plans (EREPs). GWMWater may enter into this category post-implementation of the Wimmera Mallee Pipeline. Existing initiatives to address energy use may reduce requirements under the scheme.

New Aboriginal Heritage Regulations 2007 has also been developed to support the Aboriginal Heritage Act 2006. These regulations will place additional obligations on GWMWater in relation to works assessment and liaison with indigenous and cultural heritage stakeholders.

Other changes to the external environment that have impacted on GWMWater operations include:

- Continuation of the drought and the impact on storage levels and GWMWater's ability to provide a water service;
- Acknowledgement at a political level that climate change is a real phenomenon;
- Establishment of the Office of Water;
- Introductory of the new corporations model for Regional Water Authorities;
- Proposal by the federal government that they take a greater role in the operation of the MDBC; and
- Continued escalation of construction and labour costs.

4.5 Service Standards

Service standards provide the overarching framework for the delivery of key projects and determine the level of service to customers. Standards from the Urban Customer Service Code have been in place since July 2005 and used to help determine the targets outlined in Appendix 6. A Rural Customer Service Code has also been developed for the first time to coincide with this second regulatory period Appendix 7. Both rural and urban Customer Charters required targets to be set based on best available performance data with an aim to continually improve.

Therefore there are a number of targets identified in the first regulatory period that needed to be revised to reflect the improvements made in the collection and reporting of data.

The first Rural and Urban Customer Charter service standard targets were adopted at a time where past performance was not well gauged by the business. New definitions and indicators, with limited past performance data, led to a number of inappropriate and unrealistic targets being set. With a number of years data and more reliable methods for collection and reporting, urban targets outlined in Appendix 6 now better reflect current and future expected performance. With 2005/2006 data becoming more reliable and systems improving to capture accurate data, GWMWater are in a much better position to determine more realistic and achievable targets.

With limited rural performance data to set targets (Appendix 7) limits may not be an overly accurate gauge of performance at this stage but will form a basis for improvement over the duration of the 2008-2013 Water Plan.

Both service standards for rural supply and urban have been presented to Board and CAG workshops. Customer groups endorsed and the Board of GWMWater committed to providing a level of service commensurate with the costs of delivering the service. Targets

have therefore been reset based on this feedback and increased knowledge and reliability of data provided through reporting and auditing.

5 WATER SUPPLY AND DEMAND

5.1 Overview of Supply and Demand Issues

The Grampians headworks system has been recognised as being over committed since 1992 and the overall system capped. The below average rainfall and inflows that have occurred since 1997 has led to prolonged restriction on the supply of water.

For the past seven years, most of the customer base has been under some form of water supply restriction. This has been a consequence of the extended period of low inflows that has substantially reduced storage levels.

The general lack of supply capability has constrained the development of the region with the only new water being sourced from savings realised from efficiency improvements in the distribution system or improved conservation.

The construction of the WMPP will improve the security of water supplied for all existing channel supplied customers to 96% as well as releasing a further 20,000 ML for new development both inside and outside the pipeline supply area. This presents a challenge to GWMWater of realising the opportunities for new development as well as continuing to promote water use efficiency.

The White Paper acknowledged the WMPP as an integral part of the Wimmera and Glenelg Regional Sustainable Water Strategy. This has since been supplemented by the Urban Water Supply / Demand Strategy that was lodged with the Minister for Water in March 2007.

Whilst both strategies make projections about medium to long-term outlook of demand, there needs to be an overlay of these projections with the short-term recovery of the supply system to meet commensurate demands.

A key activity to be undertaken early in the Water Plan period is Wimmera and Glenelg Regional Sustainable Water Strategy that reflects the system operating rules beyond the WMPP and formally assesses the impact of Climate Change on the supply capability.

5.2 GWMWater Supply Capability

GWMWater supply is provided from a combination of surface water and groundwater from throughout the region. The majority of this water is sourced from headworks in and around the Grampians.

5.2.1 Bulk Water Supply

Management of water supply is regulated and hence managed at the strategic level by the BE framework. The allocation of surface water is managed by three bulk water entitlement orders; the Wimmera Mallee, Goulburn and the Murray BE Orders.

Under the Wimmera Mallee BE Order, GWMWater assumes the role of Storage Operator and Resource Manager. The role of Resource Manager is performed on behalf of the Minister for Water and GWMWater is required to discharge this function independently and in accordance with the allocation framework of the BE. During 2006/07, GWMWater was directed by the Minister of Water not to release part of the environment's allocation.

The relative share of water available for all demands on the water system is defined under the respective BE Order that regulate the various water sources. In addition to the rights of rural and urban customers the rights to water of the environment is also clearly defined in the BE Order(s).

In the case of the Goulburn and Murray BE Orders there is no differentiation between urban and rural water use. Water available under these BEs is a global resource with allocations and restrictions being applied to optimise water use. There is a further entitlement under the Goulburn BE, which relates to water supply to Quambatook from the Normanville pipeline system.

Supply System 5 (Berriwillock – Culgoa) of the WMPP is to be sourced from the Murray River and GWMWater will be seeking to secure water from the Murray by conversion of GWMWater's existing rights under the Goulburn BE.

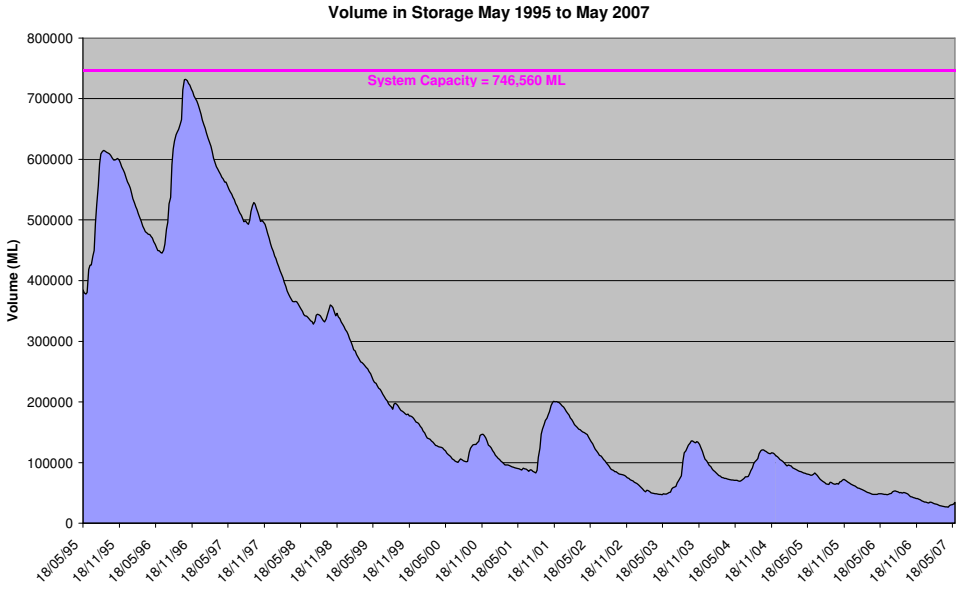
5.2.2 Grampians Headworks Supplies

The majority of water supplied to customers is sourced from the Grampians headworks system.

An understanding of the current water resource status and inflows in recent years is required to provide context to the current and projected allocations.

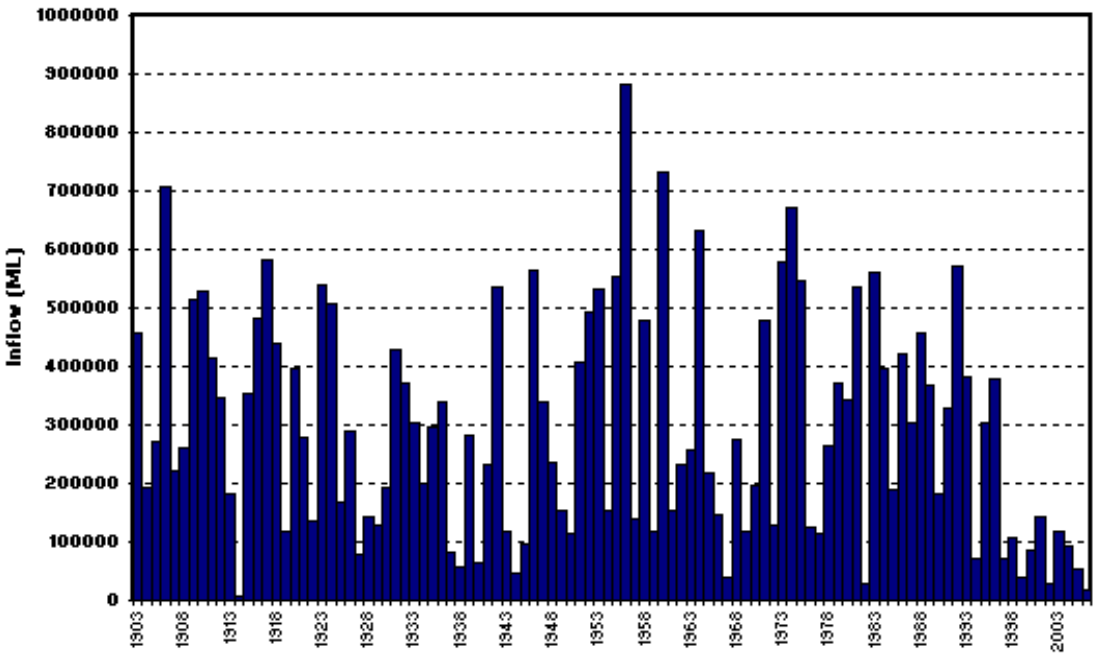
The graph below shows the volume in storage over recent years. The total volume in storage was last close to full in late 1996. Since then the volume in storage has declined, and since 2000 has been hovering at critically low levels.

Figure 5.2.1: GWMWater Grampians Headworks – Total Volume in Storage



This sequence of low storage volumes has been due to extremely low inflows over the period since 1997. The graph below shows the annual inflows since the commencement of records in 1903 through to 2007. Since records have been collected, there has been no comparable extended period of extremely low inflows.

Figure 5.2.2: GWMWater headworks system – annual inflow 1903-2007



Weather sensitive demand brought about by median climate change is expected to increase demand by approximately 1,200 ML in 50 years.

The Wimmera-Mallee D&S channel system currently supplies water to 33 urban towns across the channel system area. Typically these towns are supplied once per year.

The current average annual urban demand from this system is 4,261 ML. Water restrictions in these towns have been required since 1999.

In the initial years of drought, from 1997 to 1999, full allocations could be provided for most services owing to the reserve volume in storage. As the reserve volume has diminished, however, progressively increased restrictions have been required.

Inflows in the 2006 year were critically low, being the second lowest since the period of record commencing in 1903. A channel run started in August 2006 for town storages and was completed during November with carting to rural customers commencing in October 2006. The 2006 channel run was delayed as long as possible in anticipation of inflows that may have enabled a supply to farm dams as well as town storages. These inflows did not eventuate, with only very low inflows occurring in the early part of the 2006 winter.

Table 6.2.3 below summarises the way water allocations have translated to restrictions applied in the Wimmera-Mallee system. Irrigation supplies were also restricted in the 2000-2001 season to 33% - other supplies were not restricted in that season.

Table 5.2.3: Water Allocations V's Restrictions Applied in the Wimmera-Mallee System

Customer Group	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Winter D&S	50%	18%	35%	35%	35%	10%
Summer D&S	50%	18%	38%	35%	25%	0%
Urban – General	1-3	3-4	3-4	2-3	2-3	4
Urban – Horsham	1	1-3	3	3	3	4
Irrigation	25%	0%	0%	2.5%	0%	0%
Environment	50%	3%	13%	13%	1.8%*	0%**
Recreation Lakes	0%	0%	0%	0%	0%	0%
Irrigation Diversions	0%	0%	0%	0%	0%	0%

* *Directive from minister to withhold environmental flows in the Wimmera River reduced this figure from 10.3%.*

** *Directive from minister still current, actual allocation to May is 0.5%.*

Throughout this period, supply to urban storages has been provided in full. Urban storages are generally larger and hence more efficient in terms of minimising evaporation losses. This supply ensures urban supplies and an important regional resource for the water-carting program during 2006-2007.

Weather sensitive demand increases are not sufficient to offset population decreases. Overall urban demand is expected to fall by approximately 1330 ML/annum under a median climate change scenario.

5.2.3 Eastern Grampians Supply System

Supply from independent storages

Elmhurst and Buangor have independent supply systems. Water for Elmhurst is diverted from Hickman Creek, whilst water for Buangor it is harvested from McLeods Creek. Both creeks are tributaries of the Wimmera River. Elmhurst and Buangor are small towns with populations of 234 and 49 persons respectively.

The average annual demands for Elmhurst and Buangor are 22 ML and 12 ML per annum respectively. Based on data available, both of these towns have historically shown responsive catchments that enable reasonable levels of water harvesting even in the most dry winter conditions. A BE for these towns is currently being determined.

East Grampians Pipeline supply

The East Grampians Pipeline supply (also known as the Willaura system) is adjacent to the southeast corner of the Grampians range and is supplied by six weirs on small streams, with two each located on Stoney Creek, Mt. William Creek and Masons Creek. The supply is supplemented during the summer months by a groundwater supply comprising three bores.

The East Grampians Pipeline supply system services the townships of Willaura, Moyston, Lake Bolac and Wickliffe and provides bulk water to the Wannon Region Water Corporation township of Glenthompson under a supply agreement. The Moyston supply also has a groundwater allocation of 140 ML/annum. The system also supplies a number of rural connections, which draw water from the pipelines, between the various towns. Altogether the system provides approximately 1,000 GWMWater connections. The average annual total demand for these towns is 189 ML/annum and services approximately 1,400 persons.

The system has proven to be a very reliable in the past due to the availability of the backup groundwater bores.

Willaura is the largest of the towns in this system with just over 300 people. All four towns are located within rural communities in the Rural City of Ararat. A BE for the Eastern Grampians Pipeline Supply System is currently being determined.

Local Groundwater Supply

A single bore, located to the north west of Streatham, supplies Streatham and Westmere. The average annual demand for the towns is approximately 15 ML/annum.

Existing concerns about the condition of the Streatham bore and declining yield have led to it being included on the 2006-2007 GWMWater capital works program for upgrade.

5.2.4 Murray River Supply System

Supplies to the NMP are sourced from the Murray River at various points from Swan Hill to Piangil.

GWMWater currently has a BE for supply to the NMP from the Murray River for a volume of 2,500 ML/a issued in 1999. Owing to increasing demands, GWMWater purchased additional entitlements totaling 1,092 ML/a in 2003. This volume has not been fully utilised, enabling the selling of unused entitlement on the temporary water market.

When GWMWater's BE was established it foreshadowed an 'indicative volume' of 592 ML as a BE volume for towns in the eastern part of the NMP area. However, the creation of the merged GWMWater has avoided any priority for separate urban and rural BEs in the NMP area.

A volume of 106.16 ML/a has recently been the subject of an application to convert to an urban security entitlement on the Goulburn system of 100 ML/a for Quambatook. Hence the remaining Murray system entitlement is 3485.84 ML/a.

Goulburn-Murray Water (G-MW) sets water allocations for the Murray River system based on Victoria's share of water resource availability in that system. Allocations are announced on a monthly basis commencing in July each year. The allocations are expressed as a percentage of entitlement, with individual entitlement holders being responsible for managing their system usage within the available allocation.

Allocations typically increase during Spring if inflows are above planned levels. In addition to advising of the current allocation level, G-MW provides advice of likely subsequent levels based on analysis of inflow scenarios.

While in the long-term Murray system allocations have proven to be very secure, inflows in 2006-2007 were the lowest on record for the Murray system. By February 2008 the projection is that even in an average year the allocation would be 100%, but only 29% for a 1 in 10 dry year. Initial forecasts for the 2007-2008 season are for a nil allocation.

DSE has coordinated a program to plan contingency supply measures in northern Victoria to manage low allocations on the Murray, and the similarly low allocations on other northern Victorian systems.

Looking forward, a series of average years would lead to 100% allocations being available in 2007-2008 and in subsequent years. Although there is some probability of lower allocations

Consideration of the past 10 year inflows on the Murray system, as represented by seasonal allocations, suggests that planning on the basis of 100% allocations is reasonable for GWMWater. Measures such as temporary entitlement purchases will enable GWMWater to achieve these levels of supply should allocations less than 100% are available. The assessment of implementation of these measures would be made on an annual basis.

During the Water Plan period GWMWater is seeking to convert existing entitlement from the Waranga channel to a Murray entitlement for supply to SS5.

5.2.5 Waranga Western Channel System

The Waranga Western Channel is a point source for water on the North Eastern corner of the Wimmera Mallee Channel network.

GWMWater entitlement to water from the Waranga Western Channel is listed as a delivery obligation under the Goulburn BE. The underlying security of water under the entitlement is unclear but the volume is constrained every second year to provide for periodic maintenance on the channel.

The volumes nominally available under the agreement are 24,000 ML and 2,000 ML in alternate years. The area commanded by the Waranga channel is the area Berriwillock / Culgoa area or System 5 under the WMPP design area. 'Lifting water' and pumping can extend the range of the Waranga Channel extended to Wycheproof, Birchip and Hopetoun when there are constraints on supply from the Grampians headworks.

The town of Quambatook is also supplied from the Waranga via the Normanville pipeline system and the underlying security of water for water supplied to Quambatook is 99%.

It is intended that the volume converted from the GWMWater Murray entitlement be credited back to GWMWater when the Goulburn BE is adjusted on completion of the WMPP.

5.2.6 Groundwater Supply System

Groundwater supplies do not have a nominal level of security but there is recognition that there are potential issues in relation to the sustainability of these reserves.

Groundwater areas that are at risk are generally the subject of a groundwater protection zone. In such circumstances however these supplies are not the subject of restriction and as such groundwater towns have not been the subject of water supply restriction other than the introduction of permanent water savings measures.

Groundwater systems are managed based on the level of utilisation of the aquifer system compared to the sustainable yield of that system. Within the Murray Group Limestone Aquifer system, specific management areas have been set up and are as follows:

- Apsley
- Neuarpurr
- Gymbowen
- Kaniva
- Balrootan
- Telopea Downs and
- Murrayville

Within these areas, formal Permissible Consumptive Volumes (PCV) have been declared by the Minister for Water. GWMWater is required to manage utilisation of irrigation and commercial extractions within the PCV limits. These are detailed in the Table below.

In addition, a strip of land extending 20km east from the South Australian border is managed according to the Victorian-South Australian Border Groundwater Act. The provisions of this Act are essentially similar to the management arrangements in the above listed groundwater management areas.

Generally underlying the same area, a deeper aquifer, the Tertiary Confined Sands Aquifer has also been segmented into management areas, with PCVs set in some cases. Usage of water from this aquifer is virtually zero, as the greater depth makes utilisation of water from this aquifer largely un-economic.

The Walpeup West bore system is an adjunct to the Wimmera-Mallee D&S system and is also sourced from the Murray Group Limestone Aquifer.

Table 5.2.4. Urban allocation in groundwater supplied towns

Area Name	PCV (ML)	Town	Licence Allocations	Demand (ML)
Apsley WSPA	New PCV currently being determined	Apsley	40	42
		Edenhope	150	191
Nhill GMA	998	Nhill	1,000	463
Gymbowen GMA	10,330*	Goroke	86	62
		Harrow	29	36
Kaniva WSPA	6,950	Kaniva	600	217
		Lillimur	32	9
		Miram	7	2
		Serviceton	25	31
Neuarpurr WSPA	10,307			
Murrayville WSPA	10,883	Cowangie	40	4
		Murrayville	475	128
Telopea Downs WSPA	13,435			
Other		Kiata	40	7
TOTAL			**2524**	**1192**

** - PCV not gazetted yet.*

Edenhope is a special case within this grouping. Until recently Edenhope has been supplied from Lake Wallace. Since about 2001, Lake Wallace has been empty or nearly so, and the town's supply is now reliant on some marginal bores incorporating desalination. GWMWater is no longer able to consider Lake Wallace a secure resource, and accordingly are undertaking a program to provide a secure supply to Edenhope. This program is expected to be complete in the 2007/2008 financial year.

Water allocations in groundwater systems in the GWMWater area are not set annually as the systems respond, typically, in periods greater than one year.

GMPs in the Water Supply Protection Areas (WSPA) are reviewed formally every five years to determine, amongst other things, the appropriateness of the PCV and whether it needs to be changed.

Reviews of the Murrayville and Neuarpurr WSPAs are currently underway. These reviews are highlighting issues associated with trends in groundwater levels that could lead to reductions in the PCVs in these areas. However, it is premature to reach a conclusion in this regard.

No existing WSPAs have provision for implementation of restrictions based on water availability, however there are other WSPAs within Victoria where the management plans for the WSPA allow for the introduction of restrictions based on observed water levels or other factors.

5.3 Climate Change

There has been general acceptance that changes in weather patterns over the past fifty-years have altered and that this has impacted on rainfall and temperature trends.

This has triggered considerable research on the likely rainfall and temperatures in the future. Much of this research has centred on the sustained impact of climate change based on anticipated temperature and rainfall patterns.

At a local level the studies that have been undertaken to date suggest that there will be a continued trend toward extreme weather events. Rainfall will generally tend to decline in Western Victoria and this rain will become more intense in the east.

Declining rainfall combined with the increases in temperature suggests an overall decline of the sustainable yield of water supply in the region.

5.4 Supply Forecasts

The UWSD strategy attempts to provide a strategic context to supply and demand over the medium to longer term. The strategy is underpinned by an assumption that yields will decline over the medium to longer term and that underlying demand/consumption should be modified accordingly.

5.5 Summary of Urban Demand Forecasts

In preparing demand forecasts for the region GWMWater has three strategic dimensions to the demand forecasts, population and related demographic projections, water consumption and the overall improvements in water use efficiency and the additional water to be secured by the WMPP.

5.6 Population Projections

The population projections are based on information supplied by the Australian Bureau of Statistics (2006) and the Department of Infrastructure. This is supplemented by municipal planning data where it provides more intuitive insight into population projections.

The Wimmera Mallee region has generally experienced a decline in population over the past two decades. A decline in fertility rates and an increase in the average age of the population have contributed to this decline.

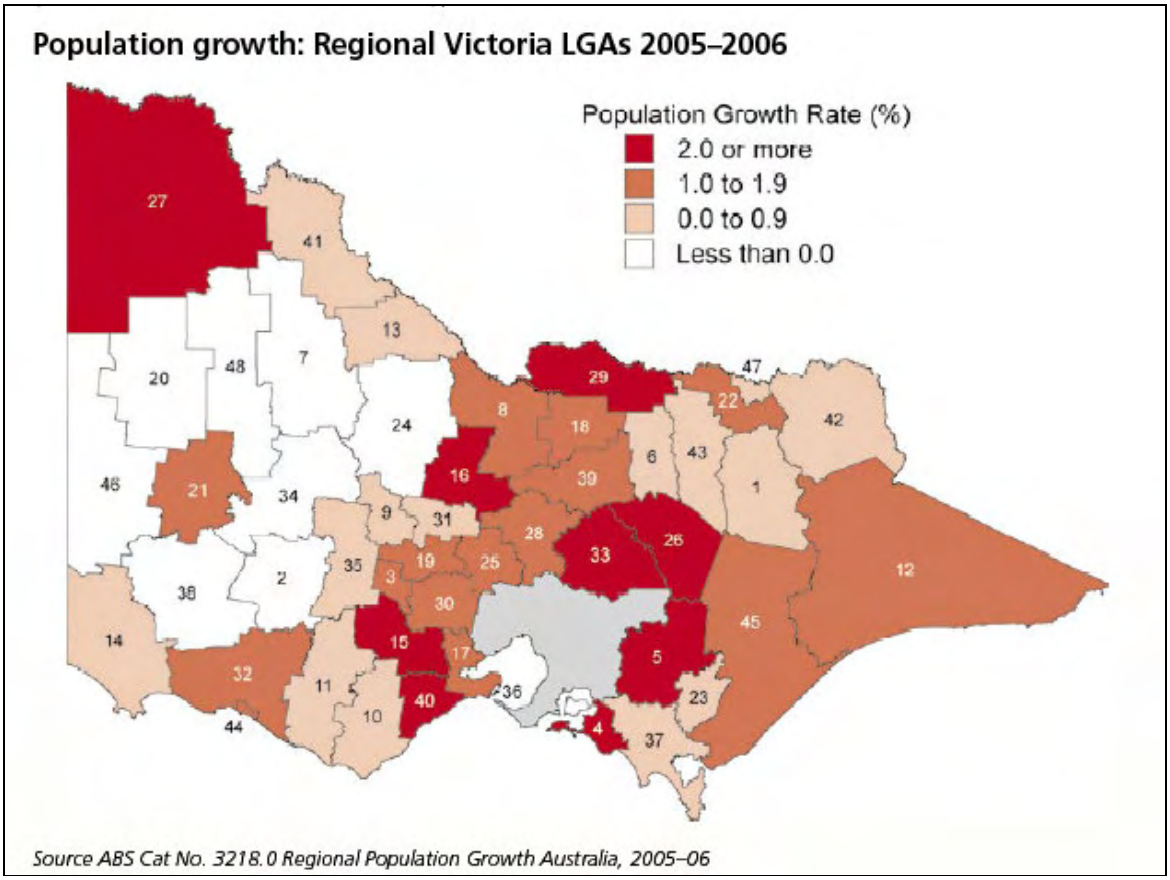
Of the thirteen municipalities represented in the GWMWater region, Horsham was the only town that has exhibited a positive annual growth in population from 2001 to 2006 at 1.0 % per annum. [1] The two most northern municipalities of Mildura Rural City and Swan Hill Rural City had growing populations in their major centres, however, in the small towns that fall within the GWMWater service area, populations were also declining.

The average decline across the region was 0.6%/annum from 2001-2006 and 2.0% in 2005-2006. Population was estimated to increase by only 52 people across the GWMWater region in 2005-2006. Since 2001, a loss of 1,157 people from the region has been recorded.

The only positive growth expect outside Horsham is at the popular tourist town of Halls Gap. Stable or minor increases may also be expected in the towns of Stawell and Ararat in the future.

1 ABS, 3218.0 Regional Population Growth, Australian, 2007.

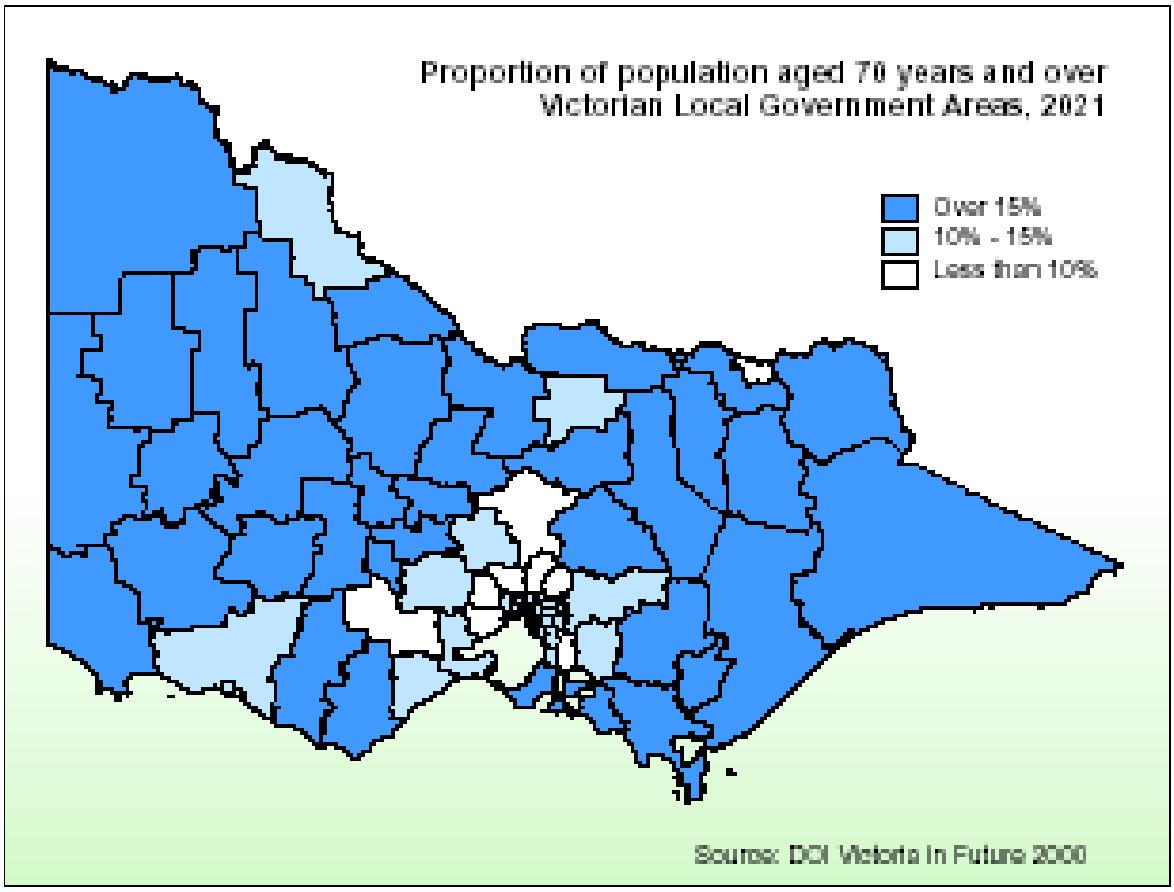
Figure 6.6.1: Average Population Loss – Victoria



A common thread of all municipalities, irrespective of whether they are in decline or stabilising, is the increase in older age groups and the decline of younger age groups. The median age for the state of Victoria is 36.8. Ages for local government areas in the GWMWater region range from 38.9 in Horsham through to 45.4 in the Buloke shire. The average age for the Wimmera region is 42.8, six years above the state average. [2]

[2] *Ibid.*

Figure 6.6.2: Victoria Ageing Profile 2021[3]



Projections made by the DSE in '*Victoria in Future*' suggests that this trend will continue. [4] This was reinforced in a more recent study titled '*Ageing in the Bush – A perspective from Victoria*' that showed the current trends projecting an increase in the number of persons aged 60 and over, and a decline in people aged 20 and under. [5]

5.7 Socio Economic Status

The drought and significant changes in agricultural practice have reduced the need for people in the region. This has translated to less employment in towns that service the region. Horsham and other southeastern towns in the region experienced net migration from the smaller towns in the north and west. The introduction of a reliable water supply via the WMPP will create opportunities for industries to be established that will value add to the agricultural outputs of the region.

In translating this information to households there has also been a decline in average persons per household. This means that the number of households remains relatively constant despite the overall reduction in people.

[3] Department of Infrastructure 'Regional Matters' - 2002
[4] DSE, Victoria in the Future 2004.
[5] DSE, *Ageing in the Bush – A perspective from Victoria*

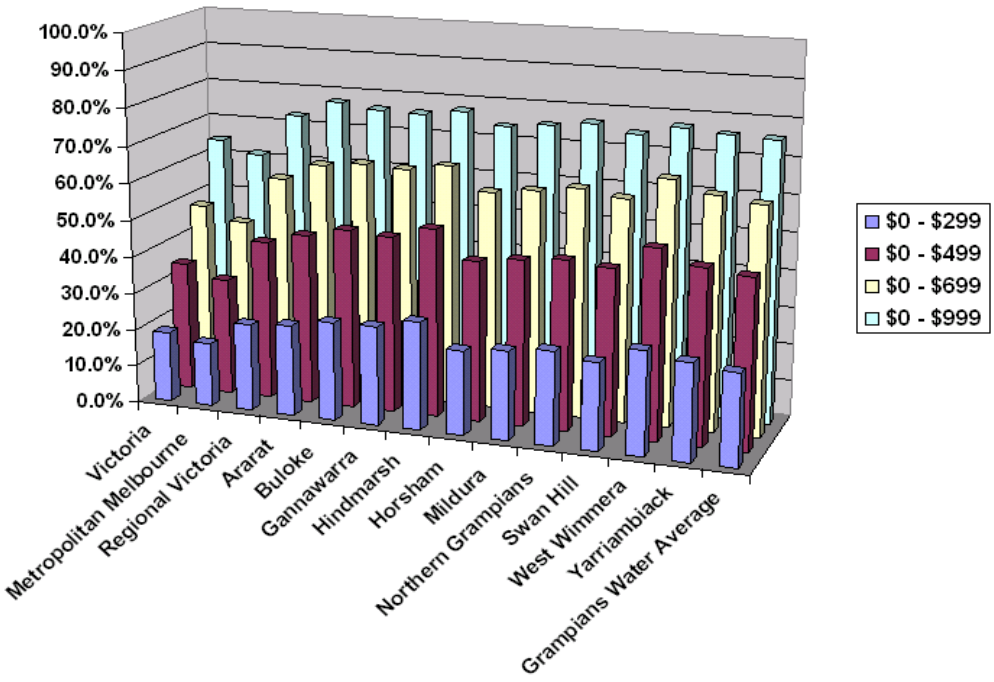
Average water consumption per household will therefore decline and in projecting forward average consumption per household will reduce over and above any targets associated with improved efficiency in water use.

Reduced employment opportunities for young people in the increasingly efficient rural sector have also resulted in a population drift to major urban centres outside the GWMWater supply area. As a result, there is a major concern by customers in respect to affordability of infrastructure services, including water and wastewater.

GWMWater has over 10,000 urban customers who are in receipt of pensioner or health care cards. This represents over 40% of the total residential customer base. An additional 244 rural customers are in receipt of a pensioner concession.

The income profile shown below is for the various Local Government areas within the GWMWater region.

Figure 5.7.1: Income Profile of the GWMWater Area [6]



The income levels of farmers in the Wimmera/Eastern South Australia and Mallee/Eastern South Australia have been the subject of studies undertaken by the Australian Bureau of Agriculture and Resource Economics (ABARE). The findings of this research for grains farm profitability in the period 2000/2001 to 2002/2003 is summarised in the following charts.

[6] Department of Infrastructure 'Regional Matters' – 2002.

Figure 5.7.2: Farm Incomes

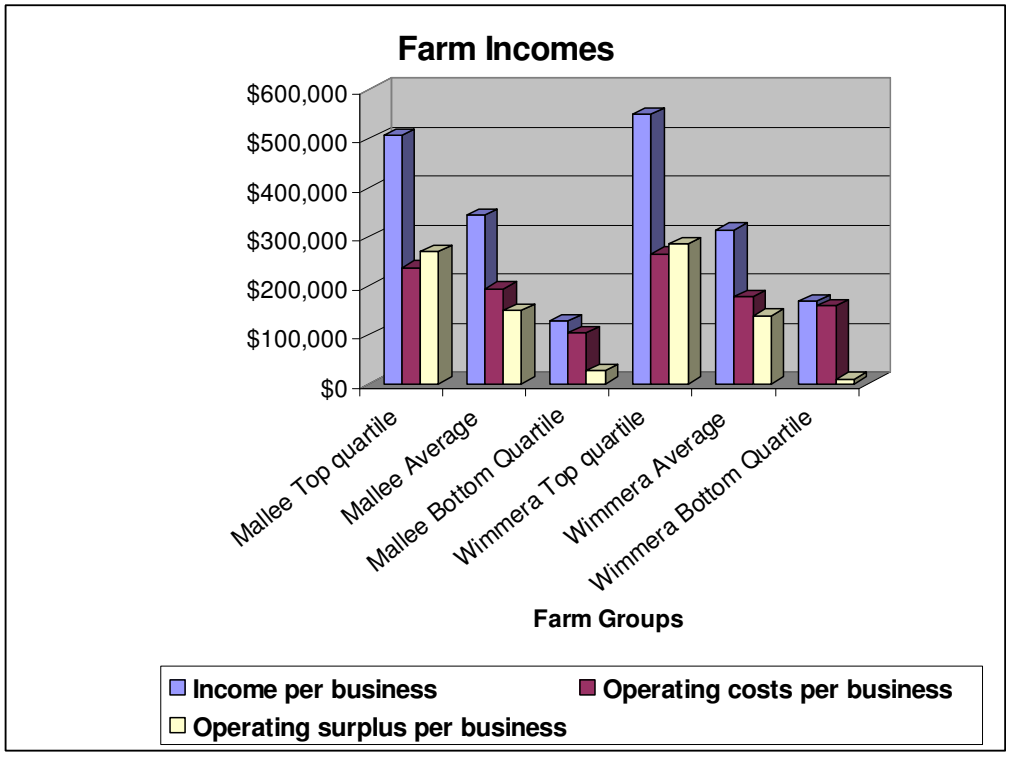
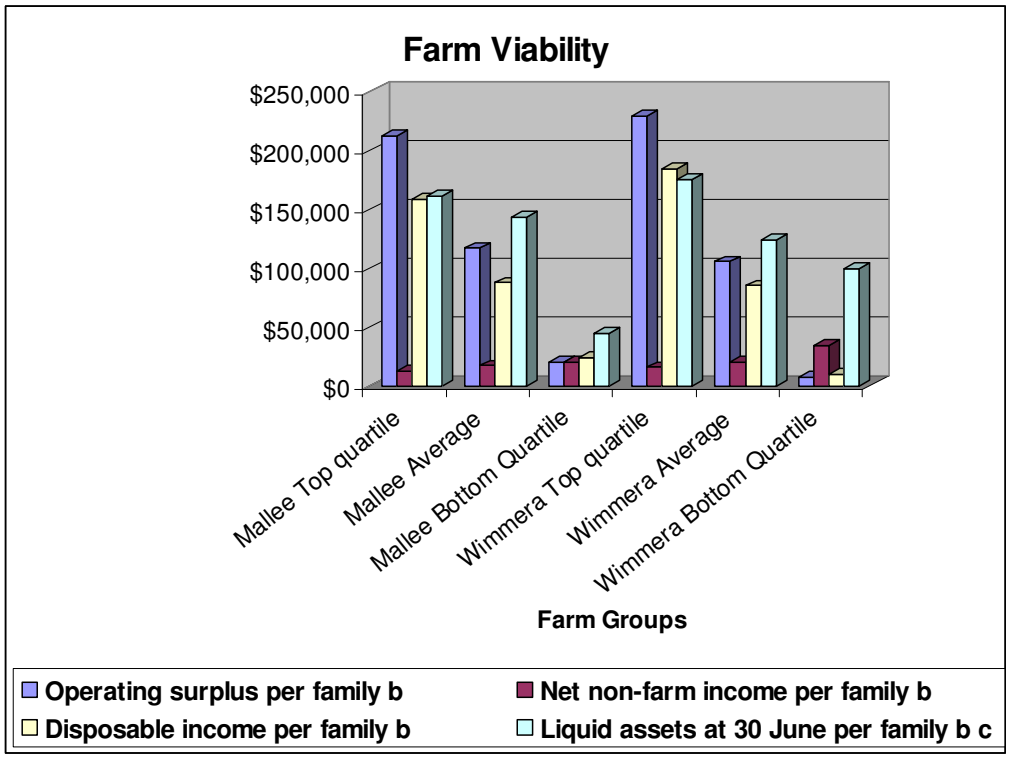


Figure 5.7.3: Farm Viability



Increasing debt levels are expected as a result of further increased costs because of drought conditions. The average debt level for the region has increased by $200,000 over five years. In 200/2001 the average debt levels was $250,000 and by 2004/2005 this had increased to $450,000. [7]

Regional affordability is an issue, a declining population presents a significant challenge to GWMWater where there is a smaller population base in an environment of increasing technical regulation and customer expectation as represented in the customer service standards. Perhaps the most critical factor affecting regional affordability is the impact of the current drought. More than 90% of the area serviced by GWMWater has been declared drought affected. As a result, rural customers in drought-affected areas qualify for interim Exceptional Circumstances (EC) funding.

The drought in 2006 resulted in an 80% reduction in grain production and 40% reduction in livestock production in the region. [8] Economic modelling of the loss of income from the agricultural sector showed that there was a loss of $1.047 Billion of regional output with a further indirect loss of $130 Million from other sectors. In the Wimmera, crop production was estimated to be only 30% of the 2005 season. This equates to approximately $300 Million of lost farm income. [9]

Table 5.7.4: Wimmera Crop Production in 2005 in Comparison to 2006 Estimates

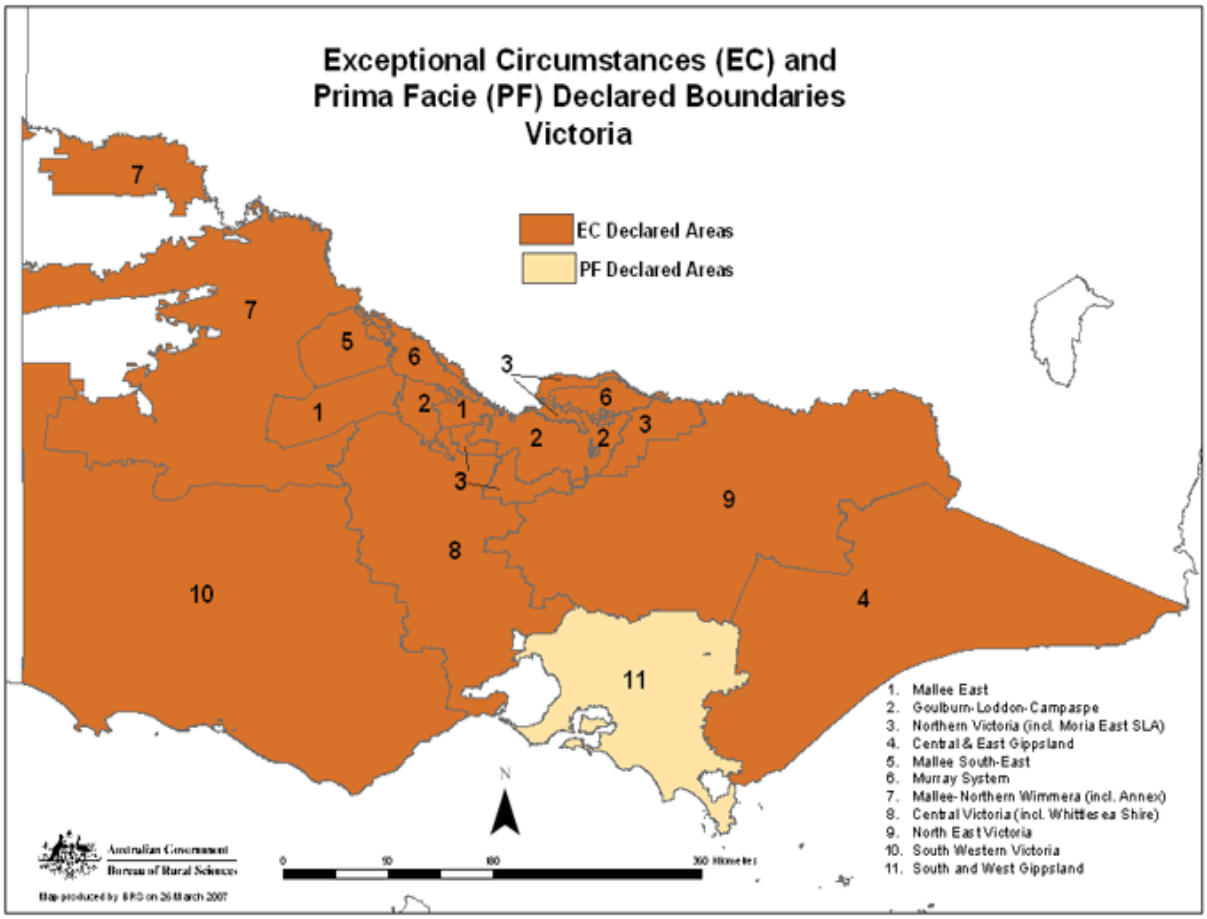
	2005			2006			
Crop	**Tonnes (,000)**	**Unit Price**	**Gross Value of Production $M**	**Tonnes estimate (,000)**	**Unit Price**	**Gross Value of Production $M**	**GV% of 2005**
Wheat	1,100	142	156.20	250	210	52.50	34
Barley	900	140	126.00	200	190	38.00	30
Oats	120	125	15.00	30	140	4.20	28
Triticale	80	134	10.72	20	160	3.20	30
Canola	100	294	29.40	20	400	8.00	27
Field Peas	110	186	20.46	25	220	5.50	27
Lentils	90	420	37.80	10	490	4.90	13
Chickpeas	10	370	3.70	2	600	1.20	32
Faba beans	70	190	13.30	10	200	2.00	15
Vetch	1.5	240	0.36	0.4	240	0.10	27
Lupins	15	140	2.10	4	240	0.96	46
Grain Production	**2,596.5**		**415.04**	**571.4**		**120.56**	**29**

Social and subsequent economic impacts of the drought include unemployment, reduced access to education, increase in rural poverty, reduction in access to health and welfare, population decline, loss of social capital, loss of institutional capital, reduced agricultural workforce and stress in farm families and communities. In addition, the health impacts of drought have been identified and relate to continuous stress, increased workload and

[7] Victorian Farmers Federation, Submission to the Victorian Ministerial Drought Taskforce, Melbourne, VFF, October 2006.
[8] RMCG, 'Wimmera Southern Mallee Drought Report 2007', Feb 2007, pg 1.
[9] Department of Primary Industries, Horsham (2006) *Grain and Rainfall Update September 2006.*

reduced income. There is also substantial economic inter-dependency between rural and urban communities in the GWMWater region.

Figure 5.7.5: Drought Affected Areas Within Victoria [10]



A key objective of the WMPP however is to secure water supply for the region and with this improved security, enhance the opportunity for economic development in the region. This has been a key element of the WMPP and the economic justification for the WMPP is based on the need to realise this opportunity.

The WMPP presents substantial opportunities to enhance regional development and reverse these population trends. A secure water supply will provide certainty to industries looking to establish in the region leveraging off the strong agricultural base in the area. The water returned to the environment will also enhance the regional amenity and enhance the opportunities for recreational and eco-tourism in the region. It is assumed that any significant reversal of population projections as a consequence of the WMPP will not be realised until the next regulatory period.

[10] Australian Government, Department of Agriculture, Fisheries and Forestry, 2007.

5.8 Water Consumption Projections

The medium to long-term demand for water supply needs to be considered in the context of rural and consumption.

Urban water consumption has been strategically represented in the UWSDS. This has been prepared on the basis of the growth and water supply outlook that would prevail in normal seasons. In the short term however, urban demand forecasts need to consider the extent that GWMWater supply systems will recover sufficiently from the drought and/or improved security generated by the WMPP. The overarching assumption of the UWSDS is that average urban consumption per assessment be reduced by 2% per annum in the near term. This is to be achieved by implementation of efficient pricing, water conservation and other water efficiency measures.

In the case of rural demand the underlying demand forecasts have been prepared to reflect the assumptions of the WMPP Business Case. Rural consumption forecasts are more closely aligned to the water allocation principles in the BE. In the case of Domestic and Stock supplies the water demands are underpinned by a greater level of uncertainty as a result of the conversin of the unmetered channel system to a metered pipeline system. It is also contingent upon the extent that growth water is taken up in the WMPP. Other rural consumption (irrigation) is underpinned by an assumption that any water available in an allocation year will be taken.

This Water Plan has been prepared in the context of the projections of population and assessments that are prepared by the Department of Infrastructure. This information has been referenced to municipal plans consistent with the urban water supply / demand strategy.

The Water Plan assumes that we will be entering the second regulatory period on the basis of reduced allocations and restricted water supply.

5.8.1 Urban Assessments and Volumes

Urban assessments over the regulatory period are expected to steadily increase with almost all the increase to occur in the major centres. Any benefits of the WMPP that are likely to stimulate in growth outside the major centres are assumed to occur beyond the regulatory period.

Urban Assessments

Urban assessments over the regulatory period are projected to remain fairly constant.

Estimates of growth in assessments are predicted to progressively increase across the course of the regulatory period. This growth will is to be concentrated primarily in the 'Grampians Growth Corridor' towns of Horsham, Stawell, Ararat and Halls Gap. Other towns are generally assumed to be steady or constant across the regulatory period. Any urban growth that may arise from the introduction of the WMPP is not assumed to occur in this second regulatory period.

Figure 5.8.1: Urban Water Assessments

	Residential Assessments							Total Assessments						
Town	**2006/07**	**2007/08**	**2008/09**	**2009/10**	**2010/11**	**2011/12**	**2012/13**	**2006/07**	**2007/08**	**2008/09**	**2009/10**	**2010/11**	**2011/12**	**2012/13**
Antwerp	10	10	10	10	10	10	10	15	15	15	15	15	15	15
Apsley	95	95	95	95	95	95	95	122	122	122	122	122	122	122
Ararat	3387	3414	3441	3468	3496	3524	3552	3998	4027	4056	4085	4115	4145	4175
Berriwillock	69	69	69	69	69	69	69	93	93	93	93	93	93	93
Beulah	142	141	140	139	138	137	136	188	187	186	185	184	183	182
Birchip	355	353	351	349	347	345	343	461	459	457	455	453	451	449
Brim	48	48	48	48	48	48	48	62	62	62	62	62	62	62
Buangor	30	30	30	30	30	30	30	39	39	39	39	39	39	39
Charlton	546	546	546	546	546	546	546	711	711	711	711	711	711	711
Chillingollah	6	6	6	6	6	6	6	9	9	9	9	9	9	9
Chinkapook	14	14	14	14	14	14	14	18	18	18	18	18	18	18
Cowangie	9	9	9	9	9	9	9	14	14	14	14	14	14	14
Culgoa	59	58	57	56	55	54	53	79	78	77	76	75	74	73
Dimboola	755	755	755	755	755	755	755	883	883	883	883	883	883	883
Donald	690	690	690	690	690	690	690	887	887	887	887	887	887	887
Dooen	14	14	14	14	14	14	14	19	19	19	19	19	19	19
Edenhope	442	442	442	442	442	442	442	551	551	551	551	551	551	551
Elmhurst	93	93	93	93	93	93	93	115	115	115	115	115	115	115
Glenorchy	57	57	57	57	57	57	57	65	65	65	65	65	65	65
Goroke	137	136	135	134	133	132	131	184	183	182	181	180	179	178
Great_Western	103	104	105	106	107	108	109	142	143	144	145	146	147	148
Halls_Gap	386	401	417	434	451	469	488	606	628	651	675	699	724	750
Harrow	66	69	72	75	78	81	84	97	101	105	109	113	117	121
Hopetoun	306	306	306	306	306	306	306	398	398	398	398	398	398	398
Horsham	6681	6765	6850	6936	7023	7111	7200	8371	8472	8574	8679	8785	8892	9000
Jeparit	252	252	252	252	252	252	252	318	318	318	318	318	318	318
Jung	40	40	40	40	40	40	40	46	46	46	46	46	46	46
Kaniva	410	410	410	410	410	410	410	547	547	547	547	547	547	547
Kiata	16	16	16	16	16	16	16	20	20	20	20	20	20	20
Lake_Bolac	120	120	120	120	120	120	120	172	172	172	172	172	172	172
Lalbert	42	42	42	42	42	42	42	63	63	63	63	63	63	63
Lascelles	22	22	22	22	22	22	22	30	30	30	30	30	30	30
Lillimur	18	18	18	18	18	18	18	21	21	21	21	21	21	21
Manangatang	129	128	127	126	125	124	123	175	174	173	172	171	170	169
Marnoo	51	50	50	50	50	50	50	76	75	75	75	75	75	75
Minyip	236	234	232	230	228	226	224	289	287	285	283	281	279	277
Miram	11	11	11	11	11	11	11	16	16	16	16	16	16	16
Moyston	83	83	83	83	83	83	83	94	94	94	94	94	94	94
Murrayville	141	140	139	138	137	136	135	187	186	185	184	183	182	181
Murtoa	412	412	412	412	412	412	412	501	501	501	501	501	501	501
Nandaly	19	19	19	19	19	19	19	35	35	35	35	35	35	35
Natimuk	217	217	217	217	217	217	217	270	270	270	270	270	270	270
Nhill	968	968	968	968	968	968	968	1193	1193	1193	1193	1193	1193	1193
Noradjuha_ClearLake	17	17	17	17	17	17	17	20	20	20	20	20	20	20
Nullawil	26	26	26	26	26	26	26	45	45	45	45	45	45	45
Ouyen	551	551	551	551	551	551	551	692	692	692	692	692	692	692
Patchewollock	36	36	36	36	36	36	36	57	57	57	57	57	57	57
Pimpinio	30	30	30	30	30	30	30	39	39	39	39	39	39	39
Pomonal	106	110	114	119	124	129	134	124	128	132	137	142	147	152
Quambatook	132	131	130	129	128	127	126	171	170	169	168	167	166	165
Rainbow	303	303	303	303	303	303	303	389	389	389	389	389	389	389
Rupanyup	201	200	199	198	197	196	195	261	260	259	258	257	256	255
SeaLake	339	337	335	333	331	329	327	426	424	422	420	418	416	414
Serviceton	28	28	28	28	28	28	28	36	36	36	36	36	36	36
Speed	28	28	28	28	28	28	28	40	40	40	40	40	40	40
St.Arnaud	1156	1156	1156	1156	1156	1156	1156	1412	1412	1412	1412	1412	1412	1412
Stawell	2815	2836	2857	2878	2899	2921	2943	3379	3403	3427	3451	3475	3500	3525
Streatham	39	39	39	39	39	39	39	52	52	52	52	52	52	52
Tarranyurk	4	4	4	4	4	4	4	10	10	10	10	10	10	10
Tempy	20	20	20	20	20	20	20	35	35	35	35	35	35	35
Ultima	77	77	77	77	77	77	77	99	99	99	99	99	99	99
Underbool	108	107	106	105	104	103	102	138	137	136	135	134	133	132
Waitchie	3	3	3	3	3	3	3	8	8	8	8	8	8	8
Walpeup	58	57	56	55	54	53	52	79	78	77	76	75	74	73
Warracknabeal	1227	1227	1227	1227	1227	1227	1227	1474	1474	1474	1474	1474	1474	1474
Watchem	70	70	70	70	70	70	70	89	89	89	89	89	89	89
Westmere	12	12	12	12	12	12	12	20	20	20	20	20	20	20
Wickliffe	34	34	34	34	34	34	34	46	46	46	46	46	46	46
Willaura	200	200	200	200	200	200	200	255	255	255	255	255	255	255
Woomelang	113	112	111	110	109	108	107	152	151	150	149	148	147	146
Wycheproof	344	342	340	338	336	334	332	440	438	436	434	432	430	428
Yaapeet	30	30	30	30	30	30	30	38	38	38	38	38	38	38
Total	**25794**	**25930**	**26069**	**26211**	**26355**	**26502**	**26651**	**32206**	**32372**	**32541**	**32715**	**32891**	**33070**	**33251**

Urban Water Restrictions

All towns in the GWMWater region are presently on PWSR and on varying levels of water restriction. The current level of restrictions for GWMWater towns is outlined below:

Permanent Water Saving Rules Only

Apsley	Cowangie	Goroke	Kaniva
Kiata	Lillimur	Miram	Murrayville
Nhill	Serviceton		

Stage 1 Restrictions

Edenhope	Harrow

Stage 2 Restrictions

Buangor	Elmhurst

Stage 4 Restrictions

Antwerp	Ararat	Berriwillock	Beulah
Birchip	Brim	Charlton	Chillingollah
Chinkapook	Clear Lake	Culgoa	Dimboola
Donald	Dooen	Glenorchy	Great Western
Halls Gap	Haven	Hopetoun	Horsham
Jeparit	Jung	Lake Bolac	Lalbert
Lascelles	Manangatang	Marnoo	Minyip
Moyston	Murtoa	Nandaly	Natimuk
Noradjuah	Nullawil	Ouyen	Patchewollock
Pimpinio	Pomonal	Quambatook	Rainbow
Rupanyup	Sea Lake	Speed	St Arnaud
Stawell	Streatham	Tarranyurk	Tempy
Ultima	Underbool	Waitchie	Walpeup
Warracknabeal	Watchem	Westmere	Wickliffe
Willaura	Woomelang	Wycheproof	Yaapeet

In implementing urban water restrictions GWMWater has worked closely with local government to identify key public reserves and assets for possible preservation to sustain as best as possible the amenity of the region. Many sporting and recreational facilities are the fabric of the community, which hold GWMWater's region together. Any exemptions from water supply restriction are subject to an approved water conservation plan that will ensure minimum overall water usage.

GWMWater has also worked closely with local businesses to minimise the impact of Stage Four water restrictions on their day-to-day operations where possible.

The anticipated impact of escalated water restrictions in 2006/2007 has been an overall reduction in consumption of 2,000 ML. This figure is over and above the 1,000 Ml previously reduced under a combination of Stage 1 and Stage 2 restrictions.

In moving forward there has been an assumption that water restrictions will be progressively relaxed. Figure 5.9.2 summaries the level of restriction that underpins urban demand forecasts across the regulatory period.

Assumptions have been made in relation to the progressive winding back of water restriction across the regulatory period.

Figure 5.8.2: Urban Water Restrictions

Urban System Water Source	**Level of Restriction**					
	2007/08	**2008/09**	**2009/10**	**2010/11**	**2011/12**	**2012/13**
Grampians Headworks	4	3	2	1	PWR	PWR
Murray River	4	PWR	PWR	PWR	PWR	PWR
Goulburn System	4	1	PWR	PWR	PWR	PWR
Easten Grampians	4	3	2	1	PWR	PWR
Grounwater	PWR	PWR	PWR	PWR	PWR	PWR
Edenhope	2	1	PWR	PWR	PWR	PWR

Urban Water Volumes

Consistent with the overall targets inherent in the UWSDS, the demand projections have been underpinned by a reduction in average consumption of 2% per year over the regulatory period.

Urban volumes are expected to progressively increase as supply capability is restored and restrictions progressively eased. These urban consumption projections however have been modified in the context of an overall saving of 2% per year.

Figure 5.8.3: Urban Volumetric Water Consumption

	Residential Volumes ML							Total Volumes ML						
Town	**2006/07**	**2007/08**	**2008/09**	**2009/10**	**2010/11**	**2011/12**	**2012/13**	**2006/07**	**2007/08**	**2008/09**	**2009/10**	**2010/11**	**2011/12**	**2012/13**
Antwerp	1	1	2	2	2	2	2	3	3	3	4	4	4	4
Apsley	29	32	34	33	32	32	31	37	41	43	42	41	40	39
Ararat	384	399	513	623	693	722	714	694	710	867	1022	1119	1161	1150
Berriwillock	12	12	15	19	20	21	21	17	17	21	25	28	29	28
Beulah	33	32	41	49	54	55	54	42	42	53	63	69	71	69
Birchip	57	55	70	83	91	94	92	69	67	85	102	112	116	113
Brim	11	11	14	17	18	19	19	14	14	17	21	23	24	23
Buangor	5	5	8	7	8	8	8	7	7	11	10	11	11	11
Charlton	87	87	111	134	148	153	150	134	134	170	205	227	235	231
Chillingollah	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Chinkapook	4	4	5	4	4	4	4	5	6	6	6	6	6	6
Cowangie	4	4	5	5	4	4	4	6	6	7	6	6	6	6
Culgoa	10	10	12	15	16	16	16	13	13	16	18	20	20	20
Dimboola	113	113	144	174	192	199	195	144	144	183	221	244	253	248
Donald	145	145	185	223	246	255	250	193	193	246	297	328	340	334
Dooen	2	2	3	4	4	4	4	4	4	5	6	6	6	6
Edenhope	91	104	121	119	116	114	112	115	131	153	150	147	144	142
Elmhurst	9	9	16	14	16	16	16	12	12	21	18	20	21	20
Glenorchy	4	4	5	7	7	7	7	6	6	7	9	10	10	10
Goroke	55	61	63	61	59	58	56	70	79	81	79	77	75	73
Great_Western	16	16	20	24	27	28	28	61	60	66	71	74	76	75
Halls_Gap	27	28	37	47	54	58	59	84	86	113	140	158	169	170
Harrow	20	24	25	26	27	27	27	30	35	38	39	39	40	41
Hopetoun	55	55	70	85	94	97	95	77	77	98	118	130	135	132
Horsham	955	992	1280	1564	1745	1828	1814	1357	1398	1786	2171	2420	2536	2520
Jeparit	38	38	48	58	64	66	65	46	46	59	71	78	81	79
Jung	8	8	10	12	14	14	14	9	9	12	14	15	16	15
Kaniva	142	159	165	162	158	155	152	207	232	240	236	233	229	225
Kiata	4	4	4	4	4	4	4	5	6	6	6	6	5	5
Lake_Bolac	20	20	25	30	34	35	34	33	33	42	51	56	58	57
Lalbert	15	17	17	17	17	16	16	18	20	21	20	20	20	19
Lascelles	4	4	5	6	7	7	7	6	6	8	9	10	10	10
Lillimur	7	7	8	7	7	7	7	8	8	9	9	8	8	8
Manangatang	52	58	59	58	56	55	53	73	82	84	82	81	79	77
Marnoo	7	7	9	11	12	12	12	10	10	13	15	17	17	17
Minyip	52	51	65	78	85	87	85	64	63	80	96	105	108	105
Miram	4	4	5	5	4	4	4	5	6	6	6	6	6	6
Moyston	9	9	12	14	15	16	16	11	11	13	16	18	18	18
Murrayville	68	76	78	76	73	72	70	93	105	108	105	103	100	98
Murtoa	62	62	79	95	105	108	106	74	74	95	114	126	130	128
Nandaly	5	6	6	6	6	6	6	9	10	10	10	10	10	9
Natimuk	36	36	46	55	61	63	62	48	48	61	74	81	84	83
Nhill	332	373	386	378	371	363	327	416	468	484	475	466	458	420
Noradjuha_ClearLake	3	3	3	4	4	4	4	4	4	5	5	6	6	6
Nullawil	5	5	6	7	8	8	8	9	9	11	13	14	15	14
Ouyen	185	208	216	211	207	203	199	264	336	347	341	335	329	324
Patchewollock	6	6	8	10	11	11	11	9	9	11	13	15	15	15
Pimpinio	5	5	6	8	8	9	9	7	7	8	10	11	11	11
Pomonal	13	14	18	23	26	28	29	16	17	21	27	30	32	33
Quambatook	40	45	49	51	49	48	47	57	65	71	73	72	70	69
Rainbow	45	45	58	70	77	80	78	61	61	78	94	104	108	106
Rupanyup	44	44	56	67	73	76	74	55	55	70	84	92	95	93
SeaLake	109	122	125	122	119	116	113	146	164	168	165	161	157	154
Serviceton	9	10	10	10	10	10	10	12	13	13	13	13	13	13
Speed	8	9	9	9	9	9	8	10	11	12	12	11	11	11
St.Arnaud	174	174	221	267	294	304	298	296	296	364	429	468	483	476
Stawell	369	371	476	579	643	670	662	1105	1104	1245	1383	1470	1507	1496
Streatham	6	6	8	9	10	11	10	8	8	10	12	13	14	14
Tarranyurk	1	1	1	1	1	1	1	3	3	3	3	4	4	4
Tempy	6	6	7	6	6	6	6	10	11	11	11	11	11	11
Ultima	28	31	32	32	31	30	30	34	38	39	39	38	37	37
Underbool	52	58	59	57	56	54	53	74	83	85	83	81	79	77
Waitchie	1	1	1	1	1	1	1	2	2	2	2	2	2	2
Walpeup	19	21	21	20	19	19	18	27	30	31	30	29	28	28
Warracknabeal	215	208	265	319	352	364	357	324	317	404	489	540	561	551
Watchem	14	14	18	22	24	25	24	17	17	21	25	28	28	28
Westmere	2	2	2	3	3	3	3	4	4	5	6	6	6	6
Wickliffe	5	5	6	7	8	8	8	8	8	9	11	12	12	12
Willaura	33	33	42	51	56	58	57	44	44	55	67	73	76	75
Woomelang	23	23	28	34	37	38	37	31	31	39	47	51	53	51
Wycheproof	77	77	98	117	128	132	128	99	99	125	150	165	171	167
Yaapeet	5	5	6	7	8	8	8	7	7	8	10	10	11	11
Total	**4494**	**4700**	**5685**	**6536**	**7054**	**7249**	**7106**	**7076**	**7378**	**8719**	**9899**	**10626**	**10913**	**10748**

Figure 5.8.4: Urban Wastewater Assessments

	Residential Assessments							Total Assessments						
Town	**2006/07**	**2007/08**	**2008/09**	**2009/10**	**2010/11**	**2011/12**	**2012/13**	**2006/07**	**2007/08**	**2008/09**	**2009/10**	**2010/11**	**2011/12**	**2012/13**
Ararat	3106	3115	3124	3133	3142	3151	3160	3519	3529	3539	3549	3559	3569	3579
Birchip	337	335	333	331	329	327	325	417	415	413	411	409	407	405
Charlton	519	519	519	519	519	519	519	623	623	623	623	623	623	623
Dimboola	660	660	660	660	660	660	660	753	753	753	753	753	753	753
Donald	655	655	655	655	655	655	655	795	795	795	795	795	795	795
Edenhope	423	423	423	423	423	423	423	503	503	503	503	503	503	503
Great_Western	0	0	0	0	0	0	90	0	0	0	0	0	0	100
Halls_Gap	353	367	382	397	413	430	447	509	529	550	572	595	619	643
Hopetoun	300	300	300	300	300	300	300	375	375	375	375	375	375	375
Horsham	6362	6442	6523	6605	6688	6772	6857	7535	7630	7726	7823	7922	8022	8123
Jeparit	236	236	236	236	236	236	236	280	280	280	280	280	280	280
Kaniva	388	388	388	388	388	388	388	472	472	472	472	472	472	472
Lake_Bolac	0	0	0	0	110	110	110	0	0	0	0	130	130	130
Minyip	230	230	230	230	230	230	230	276	276	276	276	276	276	276
Murtoa	388	388	388	388	388	388	388	440	440	440	440	440	440	440
Natimuk	198	198	198	198	198	198	198	232	232	232	232	232	232	232
Nhill	925	925	925	925	925	925	925	1086	1086	1086	1086	1086	1086	1086
Ouyen	530	530	530	530	530	530	530	646	646	646	646	646	646	646
Rainbow	283	283	283	283	283	283	283	347	347	347	347	347	347	347
Rupanyup	0	0	0	0	0	0	180	0	0	0	0	0	0	195
SeaLake	323	323	323	323	323	323	323	398	398	398	398	398	398	398
Serviceton	24	24	24	24	24	24	24	29	29	29	29	29	29	29
St.Arnaud	1080	1080	1080	1080	1080	1080	1080	1273	1273	1273	1273	1273	1273	1273
Stawell	2563	2582	2601	2621	2641	2661	2681	2959	2980	3001	3023	3045	3067	3089
Warracknabeal	1141	1141	1141	1141	1141	1141	1141	1316	1316	1316	1316	1316	1316	1316
Willaura	160	160	160	160	160	160	160	196	196	196	196	196	196	196
Wycheproof	321	321	321	321	321	321	321	380	380	380	380	380	380	380
Total	**21505**	**21625**	**21747**	**21871**	**22107**	**22235**	**22634**	**25359**	**25503**	**25649**	**25798**	**26080**	**26234**	**26684**

5.9 Issues for Specific Forecasting Parameters

5.9.1 Trade Waste Forecasts

Any increase in the number of minor trade waste customers over the next regulatory period is expected to be minimal. This is due mainly to the stability of the region's population and consequent low rate of development. Apart from a regular number of transfers in ownership, on average only 15 new trade waste customers connect to the GWMWater's sewer system annually. It is expected that this trend will continue throughout the next regulatory period.

A combination of polluter pays trade waste charging and a supportive education program has resulted in a change of water consumption behaviour in major trade waste customers. As the value of water becomes more appreciated by a region in drought, customers have become more conscious of their water usage patterns and the impact it has on their business. The trend in trade waste usage is expected to continue into the next water plan period.

5.9.2 Major Trade Waste

A framework that promotes the pre-treatment of the waste stream underpins GWMWater's Major Trade Waste policy.

As a consequence of this policy the wastewater becomes a desirable byproduct of the treatment process. This has given rise to the development of on site disposal options negating the use of GWMWater's system(s) to dispose of wastewater.

This has been a common theme in the current dry conditions although this trend may be reversed in the event of a wet year.

There are presently seven major trade waste customers that have agreements that are underpinned by commercial terms. There are a further three that are the subject of a trade waste agreement that are an integral part of the Gramapians Growth Corridor BOOT Contract.

5.9.3 Bulk Water Allocations to Other Water Corporations

In addition to direct supplies to customers, bulk water is provided to Wannon Water and Coliban Water as described below.

Wannon Water

Balmoral township is supplied by direct pumping from Rocklands Reservoir. The entitlement and allocations for Balmoral are defined in the Wimmera-Glenelg BEs.

Glenthompson township is supplied from the Willaura system which, as outlined above, has not been subject to restrictions to date.

Coliban Water

Coliban Water is supplied water from the Wimmera-Mallee channel system to storages at Borung, Wychitella and Korong Vale. The storages at Korong Vale are the major source of water for the township of Wedderburn, water for which is piped from Coliban Water's treatment plant at Korong Vale. The Coliban Water entitlement for these towns and seasonal allocations are defined in the Wimmera-Glenelg BEs.

The Table below shows projected allocations for Coliban and Wannon supply (Balmoral only) based on the Wimmera – Glenelg BE and different inflow levels.

Table 6.10.1: Urban (Non GWMWater) Allocations 2005-2008 (ML)

Allocations based on projected inflows	2005-2006		2006-2007		2007-2008	
	Coliban	Wannon	Coliban	Wannon	Coliban	Wannon
0%	382	92	382	92	382	92
10%	397	98	389	95	389	95
25%	400	99	404	101	404	101
50%	424	109	430	112	430	112

Recommend use of 25% inflow level.

The water supply to Glenthompson is part of the Mt William headworks system and is yet to be converted under a BE order. Supplies to Glenthompson are expected to reflect recent delivered volumes of water that have averaged 43 ML of water over the past seven years.

5.10 Rural Demand Forecasts

Domestic and Stock Demand forecasts are split into the following areas:

- Murray (Northern Mallee) Demand Forecasts;
- Grampians (Wimmera Mallee) Channel Supplied Demand Forecasts; and
- Grampians (Wimmera Mallee) Pipeline Supplied Demand Forecasts.

Each of these demand forecasts are based on a continuation of existing rural volumes with no material change in demands. It estimates that even with the improvements in security of supply resulting from the Wimmera Mallee Pipeline that connecting customers will still be on a restricted supply until the Grampians system is replenished by the end of the regulatory period.

The rural demand forecasts do not include any reductions in demand due to any price increases as it assumes that the final price path adopted is within the affordable and inelastic component of the pricing band. This is consistent with the Wimmera Mallee Pipeline affordability modelling and capping the real rural price at an effective $1,400 per ML by 2012/13.

Murray (Northern Mallee) Demand Forecasts

Murray demand forecasts are based on previous Murray consumptions covering 2005/06 and 2006/07. In these years the average consumption was approximately 1.6kL per hectare including all rural household and intensive customers. These periods of 2005/06 and 2006/07 were considered indicative periods where history shows consumption and number of meter charges/connections are relatively consistent from year to year.

The area charge has been replaced with a new pipeline capacity charge. No demand forecast is required as it is a direct transfer from a area charge to a defacto area charge based on 2.5kL/hectare. This defacto area charge will over time reflect true capacity usage as Murray Growth Water sales occur.

Grampians (Wimmera Mallee) Demand Forecasts

Grampians demand forecasts are split into two components:

- Channel Supplied customers – awaiting connection to the Wimmera Mallee Pipeline; and
- Pipeline Supplied customers – connected to the Wimmera Mallee Pipeline.

As the pipeline project is completed more and more customers become connected and move off the channel supplied area charge to the new pipeline supply tariff. It is expected that by 2011-12 all customers will have moved onto the Wimmera Mallee Pipeline System and a user pays tariff. These customers once converted will no longer be charged an area charge. The transition of customers moving from an area charge to the pipeline tariff has been included in the demand estimates. This has been modelled on the basis of the Parish details and the construction program of the WMPP.

As customers move from a channel supply, there will be less dam fill charges realised. Based on the current customer connection rates, approximately half these customers will be connected in the first year of the regulatory period and not incur a dam fill charge. Based on 2,500 dam fills for the year of 2006/07 and estimates of 2007/08 this equates to 1,250 dam fills forecasted for 2008/09. Furthermore it is not expected that any additional dam fill charges will be incurred in 2009/10 as the remaining customers connect.

As Grampians customers move from a channel supply to a pipeline supply the area charge they incur has been replaced with a new pipeline capacity charge. It is expected that by 2011-12 all customers will have moved onto the pipeline capacity charge and no longer be charged an area charge. Similar to the Murray tariff transition, no demand forecast is required as this transition is a direct one to one transfer as parishes connect to the pipeline.

The Grampians Capacity charge will over time reflect true capacity usage as Grampians Growth Water sales occur. Forecasted sales of Grampians Growth Water is shown below and has been estimated based on extensive community and intensive industry consultations over the 2006/07 year.

The majority of Grampians customers consumption is based on an average of the Northern Mallee consumption of 1.6kL/hectare. Although the Wimmera Mallee has higher stocking rates and therefore a higher potential consumption it also has a higher water catchment that offsets this. This assumption was checked by Roger Wrigley, Head of the Dookie Campus of Melbourne University Crop Production.

Consumption in the second step of the rising block tariff is expected to be initially higher for some customers capacity as they have never had metered supply before and this is reflected in a higher usage initially in Step 2. As their understanding of their consumption improves this consumption in the higher steps will reduce.

Any additional consumption from further Growth Water sales was also estimated at 25% of the volume purchased as it is considered customers purchased these volumes to ensure they remain within the first step of the volumetric tariff. This is also consistent with customers gaining a greater understanding of their consumption profiles and purchasing additional growth water to ensure longer term growth requirements without needing much of it initially.

The number of meters connected also needed to be forecast. The tariff was designed to minimise the number of connections by sending the signal to customers to minimise meter connections. The number of household meter connections (primary meters) was estimated based on the number of household dams that were identified during the water carting program. The number of secondary meters was based on an initial indication of secondary meter adoption from initial customer interviews. It was then staged as customers were assumed to connect as per the project timelines.

6 CAPITAL EXPENDITURE PROGRAM

The WIRO requires the ESC to be satisfied that the businesses' proposed prices do not reflect inefficient expenditure and, in fact provide, continuing incentives to pursue efficiency improvements.

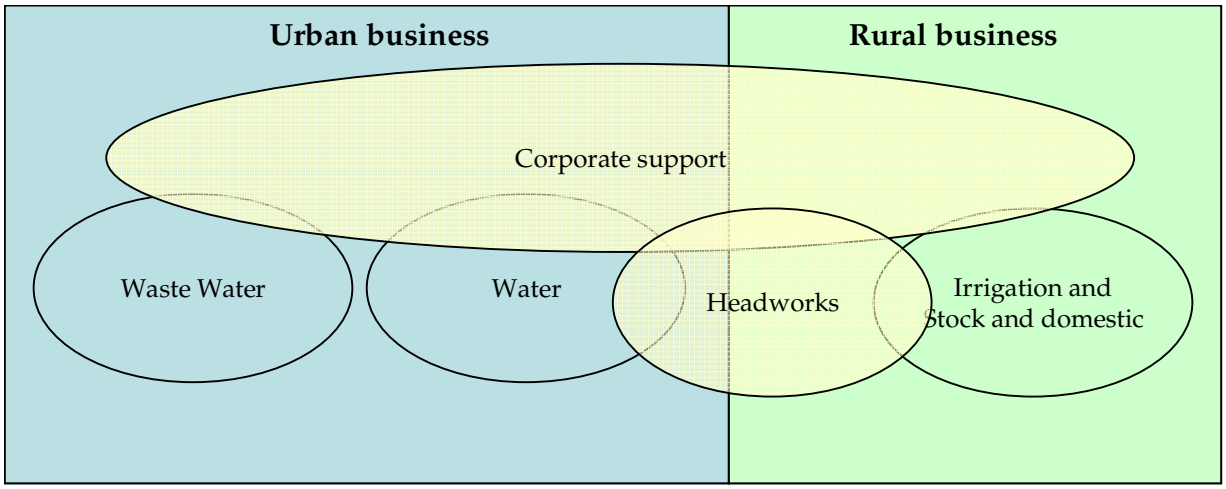
Whilst the capital expenditure program is dominated by the WMPP, there remains a substantial capital program that is dominated by compliance and improvements.

The key organisational objective relating to operations is 'the continual delivery of services', as specified in the GWMWater Strategic Plan 2005-2009. The primary role of Operational Services in meeting this objective is to operate and maintain the assets that deliver water and wastewater services to the customer.

6.1 Capital Expenditure

GWMWater operates in a complex regulatory and legislative environment much of which has direct impact on the business' capital expenditure needs. A summary of the primary legislative and regulatory instruments impacting the business and need for capital investment is highlighted in Appendix 4. Capital expenditure is a key component of GWMWater's revenue requirement and is categorised in the following groups:

Figure 6.1.1: Groupings of Capital Expenditure Forecasts



The key drivers of capital expenditure forecasts are categorised into one of four expenditures drivers.

Improved Services

Improved services are where GWMWater provides a service that meets currently mandated service standards but are to be improved.

GWMWater has a range of projects in its capital forecasts that are driven by the desire to operate as an efficient business and accordingly are covered by this driver.

Compliance

Compliance drivers required expenditure to ensure that mandated service levels are provided. There are a number of mandated compliance requirements driven by DHS and EPA to improve water quality and wastewater services respectively. Accordingly, GWMWater is obliged to comply with these government directives and a number of other requirements.

There are also programs continually identifying areas that require upgrades to comply, or maintain compliance with existing performance and regulated standards. Aging infrastructure, ongoing changes to the water industry and decentralised assets across large areas requires ongoing capital investment to maintain compliance and implement Government policy as it affects the services it provides. There are projects, particularly water re-use projects that are focused on complying with government policy and water and wastewater plants focusing on maintaining regulatory compliance requirements.

Renewals

Renewal projects require expenditure to replace/refurbish assets to ensure that the risks of non-compliance with service standards is minimised. This is driven by the need to minimise the risk of failure of assets or asset components, which have an unacceptable probability of future non-compliance with, regulated and/or legislated service standards.

Growth/Augmentation

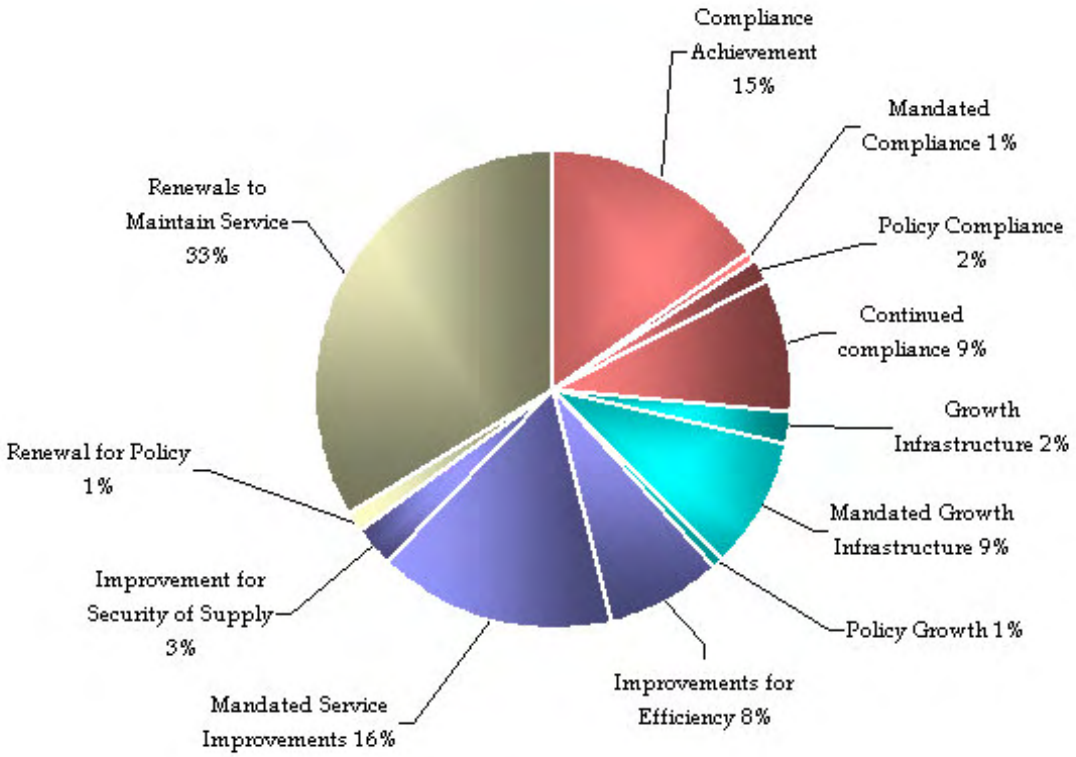
Growth and augmentation projects require expenditure to meet either increased demand or provide services to customers not currently provided. GWMWater operate in an area of very limited population growth and there are only a minor number of projects driven solely by growth. These projects are developer driven and the capital expenditure forecasts have included an estimate of the work to be contributed by GWMWater. Government has also expressed a desire to provide drinking quality water to a number of communities and these have been included to investigate this requirement.

Overall Capital Expenditure Summary

Many capital expenditure projects are driven by more than one of the above expenditure drivers. In such cases GWMWater has classified its forecast capital expenditures under the most relevant single driver. There are also a number of projects receiving customer and/or government contributions, which are separately identified.

An overview of the proportion of the capital expenditure forecasts for the Water Plan period for each of these drivers are provided below and individual projects identified under each of the organisational groupings.

Figure 6.1.2: GWMWater's Forecast Total Capital Expenditure by Driver.



The total gross capital expenditure forecasts by driver for the period 2008-2009 to 2012-2013 (in $ 2007) is presented below.

Table 6.1.3: Total Capital Expenditure Forecasts for the Period 2008/2009 to 2012/2013

ESC Driver	Component	Water Plan Total Costs ($,000)	2008/09 ($,000)	2009/10 ($,000)	2010/11 ($,000)	2011/12 ($,000)	2012/13 ($,000)
Improvement	Corporate	5,900	3,160	1,430	470	420	420
	Water	2,450	1,100	1,100	-	250	-
	Sub-Total	*8,350*	*4,260*	*2,509*	*470*	*670*	*420*
Compliance	Headworks	10,230	530	2,850	4,450	2,400	-
	Wastewater	14,112	2,805	4,243	2,199	403	4,463
	Water	14,113	1,199	15	515	6,469	5,915
	Sub-Total	*38,455*	*4,534*	*7,108*	*7,164*	*9,272*	10,378
Renewal	Corporate	12,595	3,097	2,227	2,770	2,410	2,090
	Headworks	1,345	125	540	240	225	215
	ID&S	553	153	40	90	180	90
	Wastewater	3,285	350	575	1,060	700	600
	Water	8,630	1,541	1,811	1,766	1,716	1,791
	Sub-Total	*26,407*	*5,266*	*5,193*	*5,926*	*5,231*	*4,791*
Growth	Wastewater	1,803	179	79	1,387	79	79
	Water	445	79	129	79	79	79
	Sub-Total	*2,248*	*258*	*208*	*1,466*	*158*	*158*
Total		**75,460**	**14,317**	**15,039**	**15,026**	**15,330**	**15,747**

A summary of the anticipated level of contributions from Government and customer is provided below.

Table 6.1.4: GWMWater's Contributions to Capital Expenditure

ESC Driver	Component	Water Plan Total Costs ($,000)	2008/09 ($,000)	2009/10 ($,000)	2010/11 ($,000)	2011/12 ($,000)	2012/13 ($,000)
Compliance	Headworks	380	380	0	0	0	0
	Wastewater	1,763	0	546	0	0	1,217
	Water	475	250	-	25	200	-
	Sub-Total	*2,618*	*630*	*546*	*25*	*200*	1,217
Growth	Wastewater	968	17.5	17.5	897	17.5	17.5
	Water	88	18	18	18	18	18
	Sub-Total	*1,055*	*35*	*35*	*915*	*35*	*35*
Total Water Plan Contribution		**3,673**	**665**	**581**	**940**	**235**	**1,252**

Further details on specific programs are located in Appendix 8 and summarised below.

6.2 Water

The capital expenditure forecasts relating to water services included in this section reflect the need to ensure that GWMWater can continue to meet its regulatory and legislative compliance obligations and reflect future demand.

GWMWater does not anticipate any change in expenditure drivers during the period of the Water Plan in the regulatory and legislative service standards for water. Expenditure forecasts included in this Water plan can therefore be assumed to meet 'business as usual' needs.

Water service related projects include 4 of the 10 largest projects in the overall program forecast.

Improved Services

The current drought has resulted in a number of critical projects to enhance the security of water supply being identified. In the short term, these have been identified to provide an alternative, contingency supply for some towns as the traditional source of water for these has become unavailable or unreliable.

The WMPP provides major improvement to water quality throughout the region. The project will prevent the deterioration of water quality and permit more flexible arrangements in water harvesting. The project will also significantly improve the reliability of supply, as the huge losses associated with the existing channel network will be avoided. Through the Project Control Group and Project Council, a WMPP Program Review has been conducted and the outcome established that the revised cost to complete the project is $688 Million.

Another major project is to provide security of supply to Edenhope by extracting groundwater via bores. This project is required because Edenhope has historically relied on Lake Wallace for its supply and this has proven unreliable in the current drought, with the lake being dry for a prolonged period. An interim groundwater source has required desalination, with the EPA consent for disposal of brine to the sewerage system having expired. The preferred option moving forward is to obtain groundwater from a lower salinity source probably to the west of the town. An expenditure of $2.3 Million had been forecast to complete the project, with $2.2 Million scheduled within the 2008-2013 Water Plan period.

Compliance

A key focus of capital expenditure for the 2008-2013 Water Plan period is water quality. The SDWA draws a quality distinction between 'drinking' and 'regulated' water.

GWMWater has 17 water supplies that receive disinfection as the only form of treatment. Some of these supplies consistently fail to meet the water quality standards as set out in the SDWR.

Under section 30 of the SDWA, the Secretary of DHS may accept a written undertaking in respect of a contravention of the Act, which provides protection to a water supplier against action being taken by the regulator.

The parameters that cause concern in the disinfected-only towns are total Trihalomethanes (THMs) and turbidity.

GWMWater has either entered into, or is seeking to enter into, undertakings under section 30 of the SDWA for most of these towns. The undertaking must be to undertake some definitive action designed to address the particular water quality parameter that is not being met.

The undertakings accepted by the DHS Secretary to be completed in the 2008-2009 financial year include:

- Manangatang: to provide tankage to replace the existing earthen storage;
- Lalbert: to line the existing earthen storages to overcome the clay dispersion problem; and
- Ultima: to line the existing earthen storages to overcome the clay dispersion problem.

All three of these Northern Mallee towns fail the turbidity standard (<5 NTU 95%-ile UCL).

Brim and Donald both fail the THM parameter (0.25 mg/L) occasionally. GWMWater has undertaken to provide the WMPP as a solution to Brim's water quality problems, and to do this by December 2008.

Beulah, Wycheproof and Woomelang consistently exceed the THM standard. Nullawil, Minyip and Jung consistently exceed the THM standard and occasionally exceed the turbidity standard.

Rupanyup exceeds both the THM and turbidity standard from time to time.

The undertakings proposed in each of these cases is to build the WMPP. None of these undertakings have been formally approved by DHS.

The capital expenditure program includes works at a number of these locations to improve or restore water quality. A more detailed analysis of water quality requirements and projects is included in the WISP.

The communities in GWMWater's business area impacted by the changes included in the SDWA are as follows.

Communities mandated to be supplied with drinking water during the 2008-2013 period:

Nhill	Lalbert	Manangatang	Ultima

Communities with a high priority for capital investment for supply of drinking water:

Natimuk	Nhill	Jeparit	

Communities where capital investment will be considered after commissioning of the WMPP:

Beulah	Brim	Donald	Jung
Minyip	Nullawil	Rupanyup	Watchem
Woomelang	Wycheproof		

Communities where capital investment action will be considered in the future:

Antwerp	Apsley	Berriwillock	Buangor
Chillingollah	Chinkapook	Clear Lake	Cowangie
Culgoa	Dooen	Elmhurst	Glenorchy
Goroke	Harrow	Kaniva	Kiata
Lascelles	Lillimur	Marnoo	Miram
Moyston	Murrayville *	Nandaly	Noradjuha
Patchewollock	Pimpinio	Quambatook	Sea Lake
Serviceton	Speed	Streatham	Tarranyurk
Tempy	Underbool	Walpeup	Westmere
Yaapeet			

Consultation is a key part of the decision-making process in addressing water quality. The communities of Kaniva, Aspley, Harrow, Goroke and Moyston have each indicated through community consultation that their preference is to retain regulated water supplies. Communities at Natimuk and Nhill have each indicated through consultation a preference for improving their water supply to a drinking standard and appropriate capital allocations have been included in the capital forecasts.

The provision of drinking water for Natimuk is expected to cost $1.5 Million. The provision of treated water for Nhill is forecast to cost somewhat more at $10.9 Million. Nhill is the largest town in GWMWater's service area not currently receiving drinking quality water under the SDWA. DHS requires GWMWater to provide drinking quality water to Nhill, with the preferred solution identified as an upgrade to the WTP at Dimboola and to pipe the treated water to Nhill. The outcome of this project will be compliance with Government's mandate to supply drinking quality water to the Nhill community. This is being achieved in an overall optimum manner, which includes the opportunity to improve water quality to the community at Kiata, which is on the proposed pipeline route between the treatment plant at Dimboola and Nhill.

The community of Jeparit also indicated a preference for a treated water supply. The cost is expected to be $2.27 Million and is to be implemented within the Water Plan period. The technology to be used will be the subject of a review of .

There are a number of projects identified to address the renewal of linear assets to manage the number of bursts. GWMWater has historically contracted out much of this work and the costs of the projects are based upon robust historical costs. These projects are prioritised based on the need to achieve compliance in areas where there is current non-compliance against established service standards.

There remain several projects that are required to ensure continual compliance. These are identified in the areas ongoing operations of WTPs and other water supply assets to minimise the risk of GWMWater failing to provide customers with water of an appropriate quality as required by legislation.

A major outcome for water related compliance requirements for the Water Plan period is the provision of water to drinking water standards under the SDWA, at the four communities nominated by Government. A combined expenditure of $1.3 Million has been forecast for these mandated projects. Murrayville is expected to be complete prior to the commencement of the 2008-2013 Water Plan period ($0.25 Million) and an estimated $0.1 Million has also been spent on investigations for the other towns of Ultima, Lalbert and Manangantang.

Renewals

Expenditure spent on urban pipeline system renewals is to minimise the risk of future non-compliance with mandated service standards. The ALCP for water assets analysed the age profile of GWMWater's water assets. This is summarised as follows:

Water treatment plants:	all GWMWater's plants except one are less than 15 yrs old
Water reticulation:	approx 35% of reticulation assets older than 40 yrs
Water distribution:	approx 42% of distribution assets older than 40 yrs

The ALCPs estimated the future 100-year expenditure profiles for each of the water mains and WTPs. GWMWater recognises that, in some respects, the quality of asset information is, at this stage, insufficiently robust to accurately quantify its investment needs either to achieve or maintain compliance. To date GWMWater has offset this through the development of annual replacement programs that utilise up-to-date asset performance information to target the specific assets that are priorities for replacement.

The average annual expenditure over the Water Plan period for water main assets is $0.83 Million and an average of $0.45 Million for WTPs.

A main driver for water main replacements is due partially to the short fall in achieving industry standards in relation to a number of water supply interruptions. The level of expenditure forecast in the Water Plan is conservative and designed to maintain the current service delivery standards, reduce the number of main breaks based on priority needs and mitigate the risks of service level deterioration caused by aging assets.

GWMWater has a strategy to upgrade its asset information and processes to support the development of programs relating to the replacement and renewal of infrastructure.

Growth/Augmentation

There is a small level of investment that relates to augmentation of works that are to be constructed by GWMWater and mostly funded by developers. There is some level of

expenditure that concentrates on investigative works for potential water supply to currently untreated towns.

Government/Customer Contributions

GWMWater anticipates receiving contributions to the above capital expenditure forecasts from Government and/or customers. Major infrastructure contributions are to be in the form of water supply to Nhill under the CTWSSP ($0.225 Million) for year 2010/11 and supply upgrades for Manangatang from DHS ($0.25 Million) for 2008/2009.

Developer works and planning contributions to water assets have been forecast at $88,000, equally shared across the five-year period, based on predicted demand and historical figures.

Summary

The total gross capital expenditure forecast for water during the period 2008/2009 to 2012/2013 is as follows:

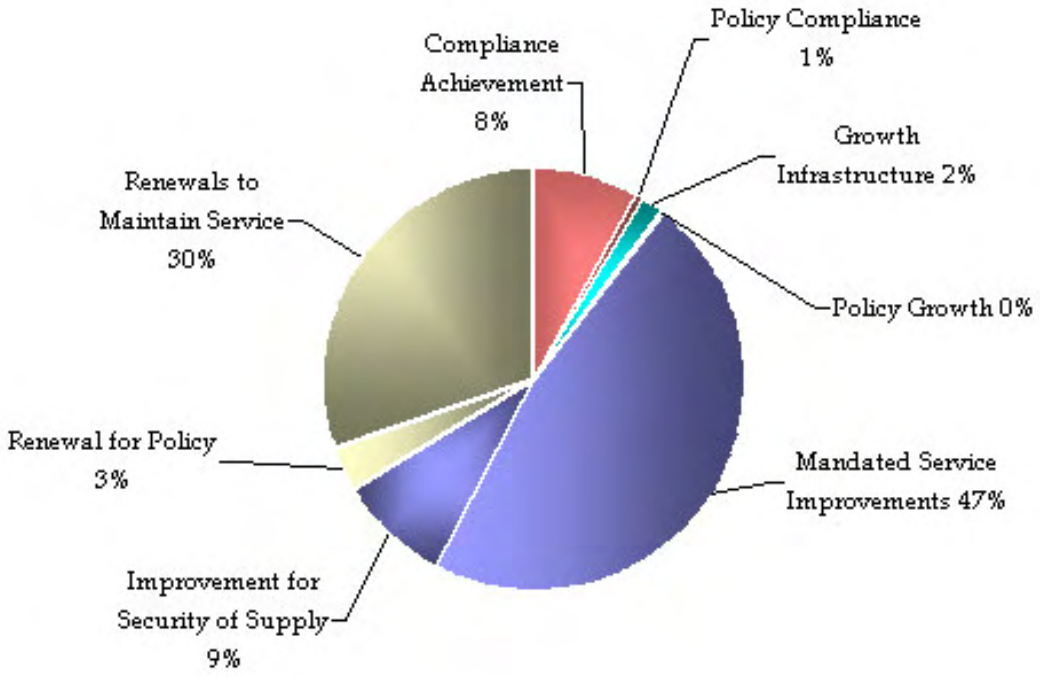
Table 6.2.1: Water Services Capital Expenditure Forecasts

ESC Driver	Component	Total Costs 2006/07 * ($,000)	2008/09 ($,000)	2009/10 ($,000)	2010/11 ($,000)	2011/12 ($,000)	2012/13 ($,000)
Compliance	Achievement	2,089	75	15	115	1,669	2,493
	Mandated	11,874	974	-	400	5,000	5,500
	Policy	150	150	-	-	-	-
	Sub-Total	*14,133*	*1,199*	*15*	*515*	*6,669*	*7,993*
Growth	Infrastructure	395	79	79	79	79	79
	Policy	50	-	50	-	-	-
	Sub-Total	*445*	*79*	*129*	*79*	*79*	*79*
Improvement	Mandated	250	-	-	-	250	-
	Supply	2,200	1,100	1,100	-	-	-
	Sub-Total	*2,450*	*1,100*	*1,100*	*-*	*250*	*-*
Renewal	Policy	880	176	176	176	176	176
	Service	7,750	1,635	1,635	1,590	1,540	1,620
	Sub-Total	*8,630*	*1,811*	*1,811*	*1,766*	*1,716*	*1,796*
Water Total		**25,638**	**3,055**	**3,055**	**2,360**	**8,714**	**9,868**

* *At June 2007*

The analysis of this expenditure by driver is as follows:

Figure 6.2.2: Total Capital Expenditure Forecasts for Water Services by Expenditure Driver



6.3 Wastewater

The capital expenditure forecasts relating to wastewater services included in this section reflect the need to ensure GWMWater can continue to meet its regulatory and legislative compliance obligations as well as reflect future demand.

GWMWater does not anticipate any key changes during the period of the water plan in the regulatory or legislative standards that govern wastewater services. Capital expenditure forecasts included in this Water Plan are therefore assumed to meet 'business as usual' needs.

Wastewater services forecast projects include 4 of the 10 largest projects in the forecast.

Improved Services

Under the CTWSSP, GWMWater is to provide town sewerage services to the communities of Lake Bolac, Rupanyup and Great Western within the Water Plan 2008-2013 period. The forecast expenditure is $2.1 Million, $2.6 Million and $1.2 Million respectively.

DSE has also advised that it requires GWMWater to undertake sewer infill programs in Halls Gap, Dimboola and Nhill within the Water Plan period. Accordingly the capital expenditure forecast is $0.33 Million for each town.

Compliance

EPA has identified a number of treatment plants where there are deficiencies in retention times for effluent water due to insufficient winter storage facilities. Stawell WWTP is expected to be refurbished at a total forecast cost of $2.2 Million. The technology of the Stawell WWTP is a 49-year-old trickling treatment process. A number of issues have been identified with the plant's performance including:

- The open sludge digester is close to the property boundary and hence to neighbours;
- There are no secondary clarifiers;
- The inlet and grit removal structure is located above the plant control room. The plant inlet structure is known to overflow at times of heavy rainfall and subsequently floods the control room. The elevated grit chamber and manually raked screen create manual handling and OHS issues;
- The maturation lagoon needs both rock beaching to prevent scouring and internal baffling to promote longer retention and treatment time.

GWMWater has assessed that this treatment plant presents a risk to the continuing compliance with the EPA discharge licence, and it is therefore proposed to refurbish the plant.

In line with EPA and government objectives, there are a number of projects identified to maximise the use of treated effluent. A number of potential reuse schemes have been identified for the next regulatory period such as Murtoa, Willaura, Birchip and Nhill. Capital investments to bring reuse schemes to fruition and meet EPA licence requirements have been allocated to Murtoa ($0.12 Million), Willaura ($0.52 Million) and Nhill (0.43 Million). Forecast expenditure has also been allocated to Birchip and Halls Gap to promote governments' commitments to increase recycled water use. There are a number of other sites that have identified reuse schemes but any investment in infrastructure will be incurred in the next (2014) regulatory period unless externally funded is sort.

Growth/Augmentation

There is a single project for sewer infill in South Horsham. The cost of this project is forecast to be $0.88 Million and will be funded by Horsham Rural City Council.

Renewals

As noted above GWMWater makes investments to renew infrastructure to achieve continued compliance with wastewater service standards. GWMWater's WWTPs range in age from 3 years to over 50 years old. EPA has identified a number of issues with some of the older plants. In addition, GWMWater wishes to mitigate the risk of WWTPs failing to comply with EPA discharge licences through asset failures. The Water Plan 2008-2013 includes capital expenditures to upgrade WWTPs at Stawell (as mentioned above) and St Arnaud at the cost of $2.2 Million and $1.9 Million respectively.

Major upgrades also commenced in 2007/2008 at Nhill and Warracknabeal and have a forecast expenditure for the Water Plan period of $1.4 Million and $1.0 Million

respectively. St Arnaud, Nhill and Warracknabeal also require major upgrades to ensure compliance.

The ALCPs developed for WWTP infrastructure estimated the future 100-year expenditure profiles for each asset type and also identified an ageing asset base summarised as follows:

Sewer mains: 56% of sewer mains are older than 40 years
Manholes: 55% of manholes are older than 40 years

There were also 41 blockages recorded per 100 km in 2005-2006. The water industry average is 29 blockages per 100 km, indicating that investments are required in asset renewals, particularly in linear assets.

GWMWater recognises that the quality of asset information requires further development to accurately quantify investment and priorities needed to achieve a higher level of compliance. Sewer main replacement costs over the Water Plan period have been forecast to be $1.4 Million, sewer pump station replacements $1.3 Million and other sewer stack and minor improvements expected to cost $1.1 Million (includes improvement works at Ararat WWTP).

Accordingly GWMWater has proposed a level of capital expenditure in this Water Plan to maintain a 'holding pattern' while improvements in asset management processes and supporting data occur. GWMWater, however, foreshadows that this investment will increase beyond 2013.

Government/Customer Contributions

GWMWater anticipates receiving contributions to the above capital expenditure forecasts from Government and/or customers.

Under the CTWSSP, GWMWater expects to receive Government contributions for sewerage schemes Lake Bolac for $0.55 Million for in 2009/2010, and $0.99 Million for Rupanyup and $0.23 Million for Great Western in 2012/13. The Horsham sewer infill program currently scheduled for 2010/11 will be fully funded by Horsham Rural City Council at an estimated cost of $0.88 Million. Further contributions from developers are estimated at $18,000 for each year of the Water Plan.

Summary

The total gross capital expenditure forecast for the period 2008/2009 to 2012/2013 is as follows:

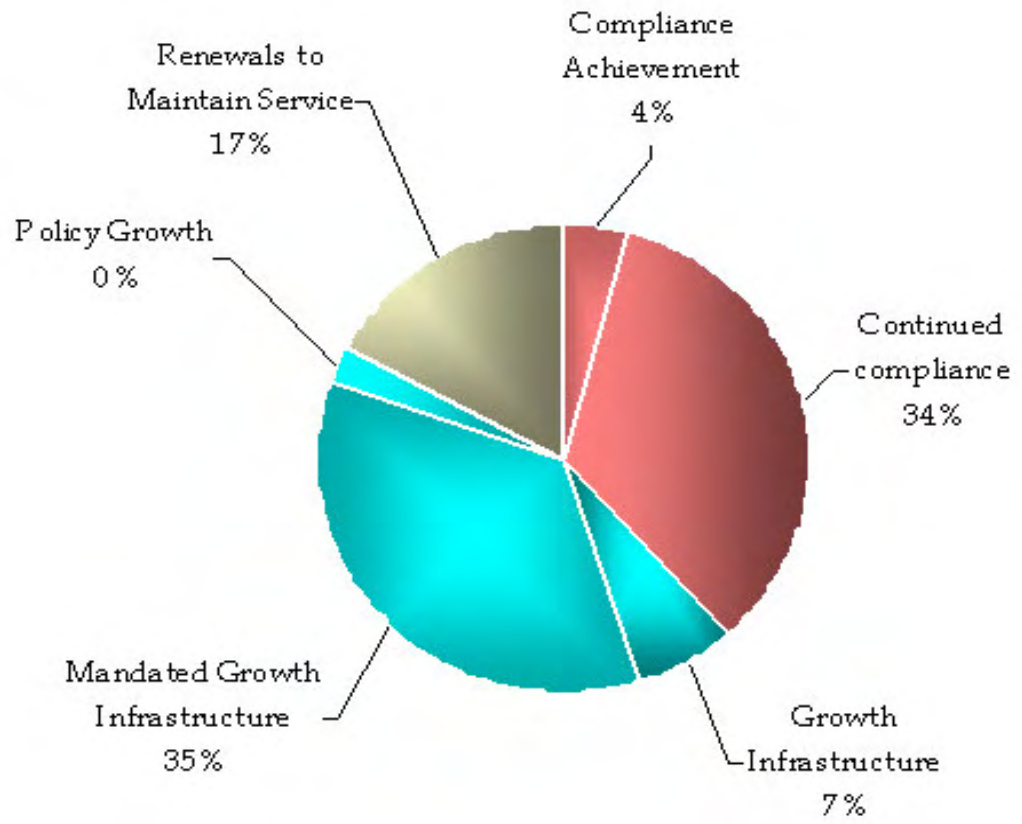
Table 6.3.1: Wastewater Services Capital Expenditure Forecasts ($,000)

ESC Driver	Component	Total Costs 2006/07 *	2008/09	2009/10	2010/11	2011/12	2012/13
Compliance	Achievement	781	125	468	15	15	158
	Mandated	6,752	160	1,900	-	388	4,305
	Policy	6,579	2,520	1,875	2,184	-	-
	Sub-Total	*14,112*	*2,805*	*4,243*	*2,199*	*403*	4,463
Growth	Infrastructure	1,275	79	79	959	79	*79*
	Policy	528	100	-	428	-	-
	Sub-Total	*1,803*	*179*	*79*	*1,387*	*79*	79
Renewal	Service	3,285	350	575	1,060	700	600
	Sub-Total	*3,285*	*350*	*575*	*1,060*	*700*	*600*
Wastewater Total		**19,200**	**3,334**	**4,897**	**4,646**	**1,182**	**5,142**

* *At June 2007*

The analysis of this expenditure by driver is as follows:

Figure 6.3.2: Capital Expenditure Forecasts for Wastewater Services by Expenditure Driver



6.4 Headworks

The capital expenditure forecasts relating to headworks assets included in this section reflect the need to ensure that GWMWater can continue to meet its regulatory and legislative compliance obligations as well as reflect future demand.

GWMWater does not anticipate any changes during the period of this Water Plan in the regulatory and legislative standards that govern headworks services. Expenditure forecasts included in this Water Plan can therefore be assumed to meet 'business as usual' needs.

GWMWater has a wide range of headworks assets. Risk mitigation to the community is the overarching driver of capital expenditure on these assets. GWMWater's SOO requires that GWMWater has regard to the guidance promulgated by ANCOLD namely:

a) Prioritising risks posed by all dams under the management of water utilities;
b) Giving currency to reducing risks to lives above other risks;
c) Basing the urgency of reducing the risk posed by a dam on the relativity of risks to the tolerability limit as defined in the ANCOLD guidelines;
d) Basing programs to reducing risk on the concept 'as low as reasonably practicable' as defined in the ANCOLD guidelines; and
e) Where feasible, progressively implementing risk reduction measures to achieve the best outcomes to the available resources.

Improved Services

The single project for improved services is to be a project funded by the Wimmera CMA to upgrade Huddleston's Weir. This was estimated to cost $0.4 Million and expected to be delivered before 2008/2009.

Compliance

GWMWater has a program to upgrade its headworks assets to ensure compliance with ANCOLD guidelines. GWMWater has already completed work at Wartook and Bellfield reservoirs. Lake Fyans and Taylors Lake are the next highest priority headworks to be addressed. The capital expenditure forecasts for Lake Fyans dam safety works is $0.7 Million and Taylors Lake embankment works $1.7 Million. A further estimated $1.2 Million will be spent on Taylors Lake dam safety works prior to the commencement of the 2008/2013 Water Plan.

The capital expenditure forecasts include a project to assess the safety requirements of GWMWater's low hazard storages ($0.3 Million). The outcomes of this review may result in capital expenditures for compliance beyond this Water Plan.

There are other headworks assets where risks have been identified, however the continual usage of these by GWMWater is uncertain given the construction of the WMPP. Any additional requirements for expenditure to comply with ANCOLD guidelines will be assessed after the WMPP is commissioned.

Government policy also requires water businesses to minimise water losses. GWMWater's capital expenditure forecasts include $1.4 Million shared equally across both Rocklands and Toolondo channels to rehabilitate them to minimise water losses. These channels will continue to be used after commissioning of the WMPP.

Renewals

Minor expenditure has been included for the replacement of headworks related assets, primarily ageing access bridges that serve to provide access across GWMWater's channels and for replacements of asset components at reservoirs.

Growth/Augmentation

There are no projects forecast for growth or augmentation on headworks storages.

Government/Customer Contributions

There are no projects expecting Government or customer contributions for the 2008/2013 Water Plan period. Huddleston weir is expected to be complete prior and will be funded by the Wimmera CMA.

Summary

The total gross capital expenditure forecast for headworks during the period 2008/2009 to 2012/2013 period is as follows:

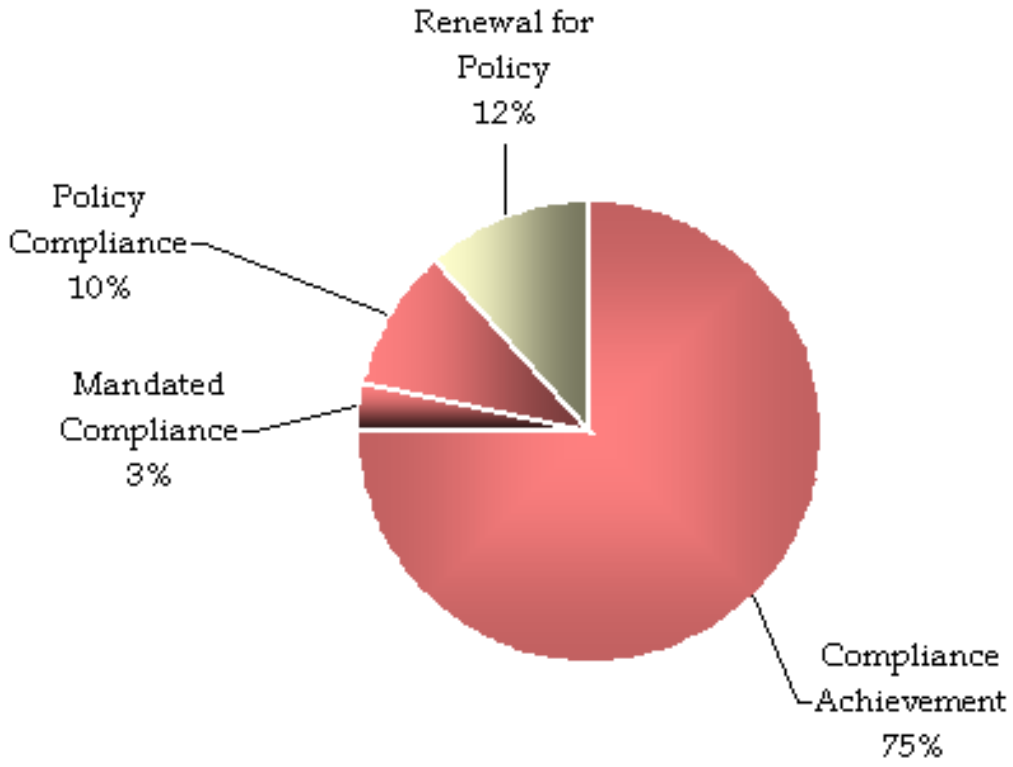
Table 6.4.1: Headworks Capital Expenditure Forecasts for the Period 2008/2009 to 2012/2013

ESC Driver	Component	Total Costs 2006/07 * ($,000)	2008/09 ($,000)	2009/10 ($,000)	2010/11 ($,000)	2011/12 ($,000)	2012/13 ($,000)
Compliance	Achievement	8,700	150	1,700	1,200	2,550	-
	Mandated	380	380	-	-	-	-
	Policy	1,150	-	1,150	-	-	-
	Sub-Total	*10,230*	*530*	*2,850*	*1,200*	*2,550*	-
Renewal	Service	1,345	125	540	240	225	215
	Sub-Total	*1,345*	*125*	*540*	*240*	*225*	*215*
Headworks Total		**11,575**	**655**	**3,390**	**1,440**	**2,775**	**215**

* *At June 2007*

The analysis of this expenditure by driver is as follows:

Figure 6.4.2: Total Capital Expenditure Forecasts for Headworks by Expenditure Driver



6.5 Irrigation, Stock and Domestic Supply

Minor irrigation expenditure has been included, however, these will only be expended if there is adequate water to provide an irrigation supply.

Included in this group of expenditure is capital expenditure associated with the replacement or installation of groundwater and surface diversion meters, which are either compliance requirements or part of an ongoing renewal program. Forecast expenditure for rural meter replacement (including groundwater meter replacement) is $0.32 Million and surface water diversion metering estimated at $0.68 Million. Government contributions are expected to account for $380,000 of this program, which is to be finalised in the first year of the 2008-2013 Water Plan period.

There are also small amounts of expenditure provided for groundwater bore rehabilitation, replacement and monitoring.

Summary

The gross capital expenditure forecast for irrigation and stock and domestic (excluding the WMPP) supply during the period 2008/2009 to 2012/2013 is highlighted below.

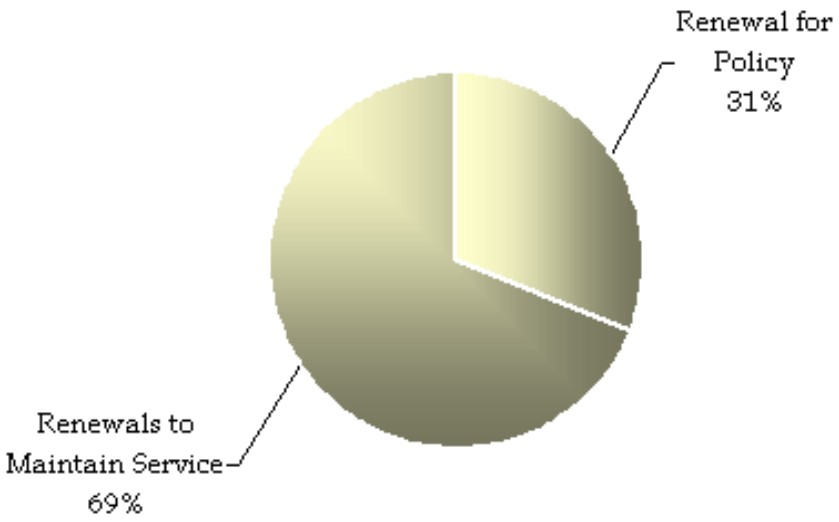
Table 6.5.1: Irrigation and Stock and Domestic Capital Expenditure Forecasts

ESC Driver	Component	Total Costs 2006/07 * ($,000)	2008/09 ($,000)	2009/10 ($,000)	2010/11 ($,000)	2011/12 ($,000)	2012/13 ($,000)
Renewal	Policy	173	113	-	-	60	-
	Service	380	40	40	90	120	90
	Sub-Total	*553*	*153*	*40*	*90*	*180*	*90*
ID&S Total		**553**	**153**	**40**	**90**	**180**	**90**

* *at June 2007*

The analysis of this expenditure by driver is as follows:

Figure 6.5.2: Capital Expenditure Forecasts for Irrigation and Stock and Domestic by Driver



6.6 Corporate Support

Expenditure on corporate support comprises a range of activities relating to 'across the business' support infrastructure. Corporate forecast projects include 2 of the 10 largest projects in the forecast.

Whilst SCADA is an infrastructure asset, it is included as an efficiency driver under the corporate group as it provides functionality across GWMWater's operational business. As noted in the asset management section, GWMWater is developing a robust information system concerning the performance and condition of assets. SCADA will provide GWMWater with the processes to both assess performance and to systematise the outcomes as part of the asset management improvement strategies. SCADA will also allow GWMWater to optimise its staffing levels by automating what are now manually

intensive processes. Implementation of SCADA across the business is forecast at $4.05 Million of which $0.9 Million will be incurred in 2007/2008.

There are also a number of projects that do not easily fit into the ESC driver definitions. These projects are necessary for the continued operations of GWMWater and have therefore been included under renewals. The second major project in the top 10 largest projects are motor vehicles replacement that will occur in line with the motor vehicle fleet policy at a total forecast of $11.4 Million.

Expenditure of $1.3 Million is also included for mobile plant and machinery replacement and $1.9 Million to upgrade software systems and hardware. Software and hardware expenditure is primarily related to asset management and financial management to increase operational efficiencies.

GWMWater has also worked on the consolidation of its operations into one location in Horsham. The capital expenditure anticipated in the current regulatory period has been carried forward into the 2008-2013 Water Plan period and will address inefficiencies and improve communication from a staff perspective. Expenditure forecast for this project is estimated at $0.54 Million.

There are a number of other minor projects relating to occupational health and safety and other cross-functional projects. GWMWater do not anticipate receiving any contributions to the above capital expenditure forecasts.

Summary

The total gross capital expenditure forecast for the period 2008/2009 to 2012/2013 is as follows:

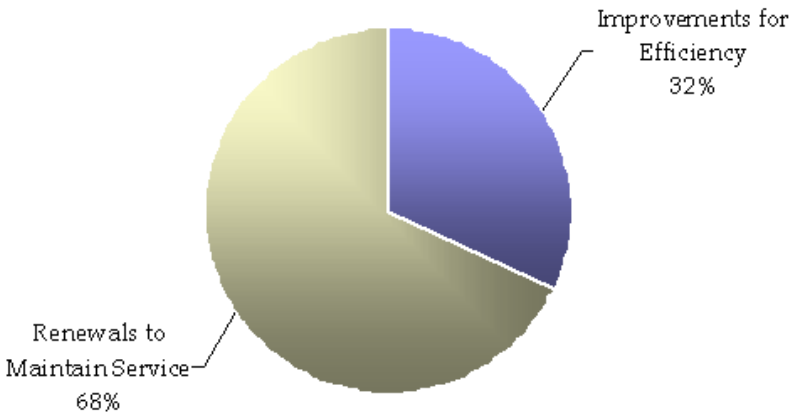
Table 6.6.1: Corporate Support Capital Expenditure Forecasts

ESC Driver	Component	Total Costs 2006/07 * ($,000)	2008/09 ($,000)	2009/10 ($,000)	2010/11 ($,000)	2011/12 ($,000)	2012/13 ($,000)
Improvement	Efficiency	5,900	3,160	1,430	470	420	420
	Sub-Total	*5,900*	*3,160*	*1,430*	*470*	*420*	*420*
Renewal	Service	12,595	3,097	2,227	2,770	2,410	2,090
	Sub-Total	*12,595*	*3,097*	*2,227*	*2,770*	*2,410*	*2,090*
Corporate Total		**18,495**	**6,257**	**3,657**	**3,240**	**2,830**	**2,510**

* *at June 2007*

The analysis of this expenditure by driver is as follows:

Figure 6.6.2: Total Capital Forecasts for Corporate Support by Expenditure Driver



6.7 Deliverability

In preparing this Water Plan a significant focus has been on the deliverability of the capital program.

GWMWater is developing a strategy for improving the delivery of its capital expenditure forecasts. The WMPP is separately resourced and delivered under the PDA with the State Government. For the remaining business, it is imperative in determining the most appropriate projects to be delivered that considerable time and resource is spent on the initial scoping, planning, governance and approval processes. The average size of a project within the capital expenditure forecast for this Water Plan is $1.1 Million (dollar 2007), which is significantly greater than the last Water Plan period. Whilst large projects are generally more complex to deliver than smaller projects the extent of planning and governance processes are proportionally smaller than for the larger projects.

The capital expenditure forecasts includes 21 projects, each with a forecast cost in the Water Plan period of in excess of $1 Million and combined they make up in excess of 80% of the total forecast capital expenditure. Delivering 21 projects over the five-year Water Plan period is achievable, however, given the size of these projects there is also a risk that any unforeseen challenges to the deliverability of any of these projects could prevent the delivery of the forecast level of capital expenditure.

GWMWater has already commenced laying the groundwork for a number of projects scheduled for delivery in the Water Plan period and include SCADA at $3.2 Million. It is planned to have a preferred supplier selected before 2008. $0.9 Million of the contract is planned for delivery in the current water plan period.

The forecast expenditure for Nhill and Warracknabeal is $2 Million, with work expected to commence in early 2008. It is anticipated that these upgrades will be procured under a single contract resulting in less administration and management resources from GWMWater.

6.8 Prudent and Efficient Capital Expenditure Levels

GWMWater sources the majority of its capital expenditure projects via competitive tender. Tenders are assessed using the whole of life costs as a benchmark. For larger complex projects and those seeking strategic assessment, external consultants are generally engaged to propose solutions to meet the needs of a particular project. The solutions proposed are then subjected to rigorous internal review usually in conjunction with the consultant and, if appropriate, amended to provide the optimum solution. For smaller projects and projects where there is clearly only one solution, GWMWater uses its internal resources to define the solution.

GWMWater's resources are used to develop proposals for approval, procurement and to manage project delivery.

Historically the cost of internal resources used in the capital program represents approximately 5% of the total costs. This strategy of procuring solutions to capital works needs is one that a prudent business operator in GWMWater's environment would adopt.

Project costs included in this Water Plan have been developed from the following sources:

- Costs incurred by GWMWater in providing similar solutions adopting the methodology detailed above; and
- Independent consultant's advice.

Where appropriate, historical costs have been adjusted or escalated for time differences.

The costing of the capital expenditure program included in the Water Plan is based upon a strategy adopted by a prudent operator. However, the current market is demonstrating significant increases in costs above that forecast using the above information sources. What is unclear is whether this significant jump in and costs is temporary or permanent, and, if permanent, it is probable that the forecast costs of the capital expenditure program will be underestimated.

6.9 Top Ten Projects over the Regulatory Period (Excluding WMPP)

The top ten projects independent of the WMPP have been summarised to provide greater clarity on the context of the capital program. The projects exclude any general replacement type activities and focus on key compliance or major facility replacement type programs.

The summaries of these projects have been included in Appendix 8.

6.10 Wimmera Mallee Pipeline

The increased cost of the WMPP has not diminished its value to the region. Its primary objective was as a water savings project but this has broadened to its value as a water supply augmentation project. This Water Plan has not sought to restate the project and these are covered by the original interim business case.

The WMPP has however been the subject of a Program Review and an affordability assessment. These two documents have underpinned commitments of additional funding by State and Commonwealth governments to assist in meeting the $248 Million funding gap.

6.11 Financing Capital Investments

Capital investments are generally financed from GWMWater operating revenue. Where GWMWater is investing in new services or service upgrades these investments can be supplemented by contributions from customers and/or government contributions.

A number of water quality and new town sewerage investments are assumed to be funded through a combination of customer contributions and government contributions.

Funding for water quality improvements in Manangatang, Murrayville, Nhill, Underbool, Lalbert and Ultima will be partly met by contributions under the CTWSSP. Price increases will also be passed on to match the level of water quality being provided in accordance with the pricing principles established in Section 9.

Funding for new town sewerage schemes is also being met from government contributions. Schemes included in the plan in the towns of Lake Bolac, Great Western and Rupanyup are at various stages of development and are being funded to the extent that the communities and GWMWater support the introduction of sewerage at the various stages of development.

The most significant investment in the planning period however remains the WMPP. The commitments to fund the WMPP were made on the back of estimates that were prepared in 2004. In the interim the cost of construction projects and associated materials have escalated beyond general price movements as reflected in the Consumer Price Index.

7 OPERATING EXPENDITURE

The key productivity improvements proposed by Operational Services is an adaptive long-term statement, outlining solutions to the operational needs of the organisation with completion of the WMPP. These include evaluation of the following:

- Required staff numbers for operations, post-WMPP;
- Future skills requirements for operational staff, post-WMPP;
- Role of technology and legislation in dictating operational tactics;
- Provision of customer service and rationale for retaining regional offices;
- Organisational requirements for delivering services (number of regions, structure of group); and
- Provision of support services, including store and workshop.

The future needs of GWMWater will be met by taking into consideration:

- The evolving needs of the organisation with the staged construction and handover of the WMPP;
- The demise of the Wimmera Mallee channel system and the changed skill requirements once the WMPP is complete;
- New technological advances; and
- Changed legislative environment.

The changes the WMPP will bring about include:

- Service delivery – continuous instead of periodic;
- Quality – from relatively low to relatively high;
- Service provision – from proactive to reactive;
- Automation – from manual to fully automatic;
- Technology – from low to high; and
- Relationships – personal to impersonal.

7.1 Key Drivers of Operating Expenditure

GWMWater was formed on 1 July 2004, from the merger of the Rural Urban Water Authority, GRWA, and the Rural Water Authority, WMW.

Among the specified criteria for the creation of the new organisation was that there would be no forced redundancies and no forced office closures.

The organisational structure and operating environment that derived from the merger was, to some extent at least, an interim arrangement. It was designed to ensure the continued delivery of services to customers with minimal impact, until such time as sufficient experience had been gained to allow a more extensive revamp of the organisation.

Despite the large geographic range, the region has a relatively small population. Resourcing the physical provision of services to remote locations is a major challenge, as is managing the cost to operate, maintain and replace the infrastructure.

The WMPP is presently in the planning and development stage. The WMPP includes provision of over 8,000km of pipes and associated pump stations, storages and appurtenant works. The new infrastructure will also necessitate significant changes in operation, as it will completely replace the existing channel system.

The WMPP will transform the way in which GWMWater delivers its services. It represents a profound change in both the type of skills that will be required and the assets utilised in delivery of the services.

The WMPP, along with new technology, the imposition of greater legislative and stakeholder requirements, presents challenges and opportunities in the way GWMWater will operate.

The key strategies identified to achieve operational efficiency in the second regulatory period include; staffing levels required under a piped system, resources and skills required, improving service provision including the use of SCADA and reform regional operations.

7.2 Justification of Forecast Expenditure Levels

The progress and completion of the WMPP over this Water Plan period should negate the need for any significant water-carting program beyond 2007/2008. Operating expenditure levels are therefore expected to return to levels consistent with the previous ESC determination. It has been assumed that the increase in energy costs related to a piped system will be largely offset by reductions in staffing levels required. The WMPP will transform the way in which GWMWater delivers its services. It represents a profound change in both the type of skills that will be required and the assets utilised in delivery of the services.

The new obligations identified in the capital program, have increased operations and maintenance expenditure by $0.8 Million as a result of new or improved services in a number of towns. These include: water supply upgrades for Manangatang, Lalbert and Ultima; new wastewater services in Rupanyup, Lake Bolac and Great Western; improved storage and reuse of wastewater at Willaura; and a new treated water supply for Natimuk. Some of these capital projects are being undertaken as part of the CTWSSP. The corresponding increase in demand and revenue as a result of these projects has been included in the Water Plan. A detailed breakdown of additional operating expenditure is provided in Table 7.10.1.

In order to ensure that GWMWater operates efficiently and continues to capitalise on the efficiency gains from the merger, savings targets of 1% per annum, have been applied to operations, maintenance and administration budgets over the Water Plan period. The key strategies identified to achieve operational efficiency in the second regulatory period

include; staffing levels required under a piped system, resources and skills required, improving service provision including the use of SCADA and reform of regional operations.

Table 7.10.1: Additional Operating Expenditure - New Obligations (at 1/1/07 $,000)

Additional Operating Expenditure ($,000)	2008/09	2009-10	2010-11	2011-12	2012-13
New Wastewater Services (Rupanyup, Lake Bolac, Great Western)	-	-	30	30	30
New Treated Water Supply (Natimuk)	-	-	-	-	53
New Treated Water Supply (Jeparit)				60	60
Improved Wastewater storage & reuse (Willaura)	-	-	35	35	35
Water Supply Upgrades (Lalbert, Manangatang, Ultima)	-	140	140	140	140
Total Operating expenditure	**-**	**140**	**205**	**265**	**318**

7.3 Productivity Improvements Over the Period

The WMPP is expected to deliver the productivity improvements required for water supply and economic efficiency. GWMWater will be a predominately piped system after construction of the WMPP. Staff will be predominately pipeline operators and as a consequence of this movement, staffing levels will be rationalised to achieve a total complement of approximately 85 FTE operational employees. Post WMPP it is expected this will be a reduction from 108 FTE.

This will require suitable skills to be identified to operate and maintain the WMPP, including the costs and benefits of providing SCADA and/or electrical maintenance through internal resources. This will partly determine the future recruitment and training strategy required to employ and retain skilled staff for water treatment, maintenance and ensuring standby and emergency maintenance requirements can be met.

Productivity improvements are expected to occur through improved data collection. Better maintenance scheduling and the simplification and centralisation of the provision of information services to plumbers and developers will further enhance efficiency. Implementing a dedicated 24-hour control centre and reviewing the costs and benefits of outsourcing water treatment to improve compliance with regulations and quality of water delivered to customers could occur during the regulatory period.

Further productivity improvements will occur through the progressive implementation of local SCADA systems to complement the WMPP SCADA. This will occur on a priority basis, with disinfection facilities having the highest priority.

To better accommodate a piped system, restructuring of the Operational Services Group is expected to see a move away from the traditional geographic based divisions to a service delivery model. This is expected to provide cross-functional skill sets and provide efficiencies through an owner/manager/service provider model for asset management.

8 REVENUE REQUIREMENT

The most significant expenditure driver for GWMWater that is influencing the revenue requirement of GWMWater remains the WMPP. Regulatory obligations and/or Ministerial Directives that are aimed at either improving services to rural communities or meeting increasing regulatory standards however also influence the revenue requirement.

For the first regulatory period, the WIRO was adjusted to regulate differentially for urban and rural activities. The oversight of rural activities was a general assessment of cost efficiency that provided for a revenue cap. Urban oversight related to specific price control as well as cost efficiency. This effectively meant that GWMWater was required to lodge two Water Plans within the one Water Plan with determinations issued for rural activities and urban activities.

The WIRO has reverted to it is original form and as a result the ESC will be responsible for full price and service oversight of both rural and urban activities. The construction of the WMPP gives rise to a blurring of rural and urban activities with the key distinction relating to any differing customer service levels that have been developed for rural customers serviced by the WMPP.

This blurring of urban and rural activities is restricted to domestic and stock services. There is a need however to 'ring fence' the irrigation, diversion and groundwater activities as these customers do not directly benefit from the WMPP.

This is not such an issue for the diversion and groundwater sector, as they generally do not utilise the infrastructure of GWMWater to receive a service. The irrigation sector will be commercially 'ring fenced' to ensure that costs are appropriately allocated. More particularly, as the irrigation sector is not an intended beneficiary of the WMPP, the irrigation sector should not be disadvantaged as a result of any unintended consequences of changed shares of consumptive uses of water arising from the WMPP.

8.1 Affordability Study

The most significant project for GWMWater is the construction of the WMPP.

The affordability of the WMPP at a cost of $688 Million and its potential impact on customers has been the subject of an 'affordability study' by GWMWater. This study considers the impact on water prices and the commercial vibility of GWMWater at different levels of state and federal funding.

The study referenced the potential price impacts at different levels of government contribution against the pricing proposals and projected price outcomes of other water businesses as represented in their Water Plans. The study referenced the impact of the price outcomes on the key financial indicators used by the ESC for interest cover and gearing. The comparison of the equivalent cost per ML of other water projects around Victoria aimed at winning 'water savings' for the environment and/or consumptive use.

PricewaterhouseCoopers (PWC) has undertaken an independednt review of the GWMWater Affordability Study. The PWC independent review was commissioned by DSE and gave rise to an independent report on the affordability of the WMPP. On the basis of the independent report prepared by PWC, the Victorian governmnet increased its contribution by committing an additional $99 Million toward the cast of the project.

This increased contribution by the Victorian government was unconditional but was underpinned by an assumption that the Commonwealth would match this level of contribution. As part of pre-election commitment by both the federal Labor and Liberal governments both committed an additional $124 Million toward the cost of the WMPP.

GWMWater believes that there is sufficient strength in these commitments to formalise a five-year revenue requirement. This affordability can then be assessed by the ESC consistent with the specific requirements Section 14 (a) of the Water Industry Regulatory Order (WIRO).

On the basis of the additional $223 Million committed to the project, GWMWater has formally assessed the overall revenue requirement for the regulatory period.

8.2 Overview of Revenue Requirement

The overall revenue requirement for the full five years of the second regulatory period has been updated to reflect the current understanding of funding commitments made by State and Federal governments.

Consistent with the 'interim' 2008-13 Water Plan, GWMWater is still seeking a price increase of 17.1% nominal in the first year of the five-year regulatory period. This will allow sufficient revenue to be recovered in year one of the regulatory period based on the existing assumption of a $440 Million construction cost and a $106 Million contribution by GWMWater for the WMPP.

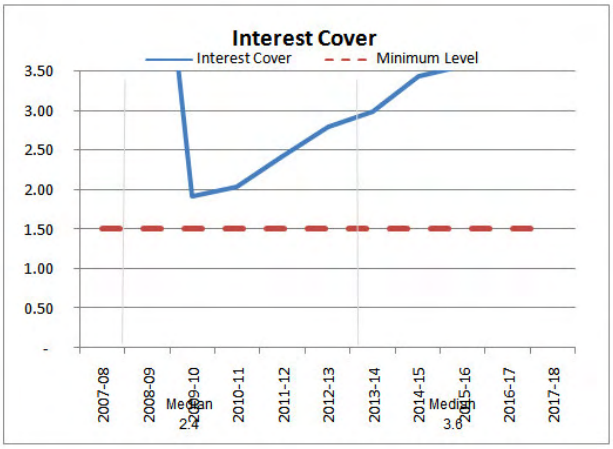
The price increase beyond the first year assumes a 3.4% real price increase. The increase being sought by GWMWater is for a tariff basket within the overall framework of a revenue cap. This revenue increase is to be differentially targeted to urban and rural customers but indicatively this is to be based upon price increases of 1.24% for rural and 3.54% for urban customers.

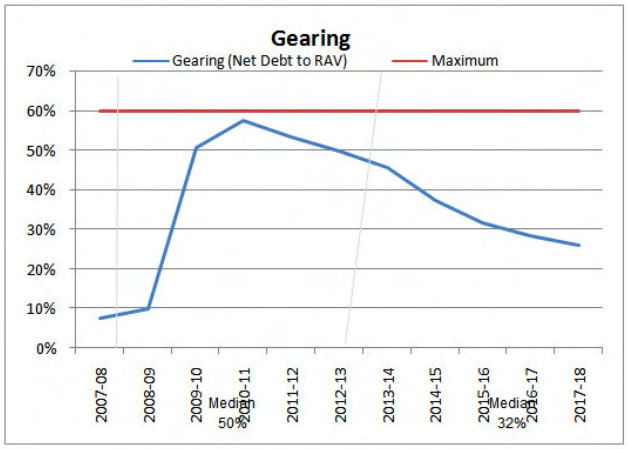
8.3 Impact on GWMWater Commercial Viability

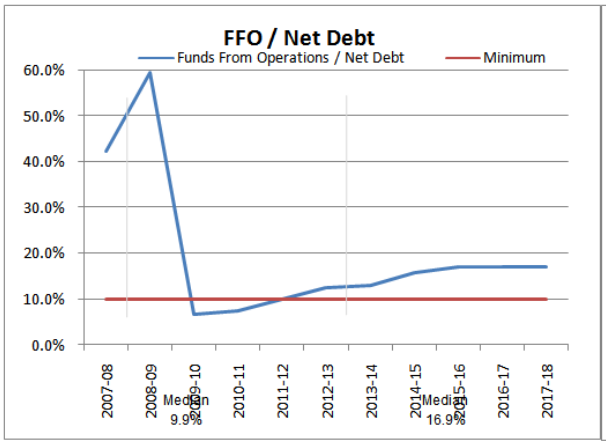
A key consideration in setting this price outcome is the overall impact on the Commercial Viability of GWMWater.

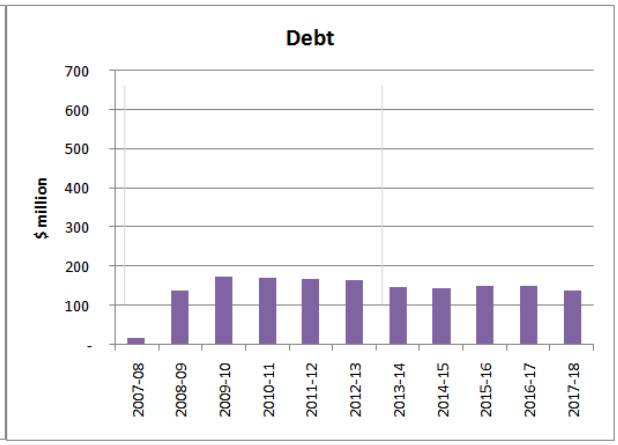
The level of borrowing to be undertaken to finance the pipeline push GWMWater into the upper bound of indicators of financial health when applying the financial benchmarks applied by the ESC. Projected debt levels peak at around $180 Million in 2009/10 and then progressively decline over the remainder of the regulatory period.

At this level of borrowing, gearing levels are marginally below the 60% upper bound aestablished by the ESC. Interest cover is marginally above the minimum 1.5 times interest cover benchmark established by the ESC. The free funds from operation to net debt dips marginally below the benchmark 10% at the peak debt levels of 2009/10.









8.4 Updating the Regulatory Asset Base

In developing the inaugural 2006/2008 Water Plan, the Minister for Water approved an initial RAB of $76.7 Million.

For Urban and Domestic and Stock prices these will be influenced by the allocation rules that apply to the funding of the WMPP. Only GWMWater funded investments feed into the RAB under the Building Block model.

This RAB was part of the urban price determination but was aimed at maintaining existing revenue capacity to meet future obligations for the WMPP. Whilst the RAB was attributed to GWMWater's urban activities the overall level of revenue accommodation provided reflected the total revenue requirement that was anticipated for GWMWater.

8.5 Rolling Forward the RAB

The initial RAB was set at 1 July 2004 and this coincided with the timing of the merger.

Investments through the regulatory period have been recorded and adjusted where these investments have been funded from government and/or customer contributions. The projected Regulatory Asset Base over the regulatory period is summarised below.

Table 9.5.1: Rolled Forward Asset Base

Rolled forward asset b	$m, 1/1/07								
			FIRST REG PERIOD		SECOND REG PERIOD				
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Opening asset base	78.99	91.69	95.71	101.83	111.57	232.01	269.11	270.63	277.76
Gross capex	18.03	15.33	147.64	297.36	251.03	45.04	11.78	15.69	17.83
Government contributions	0.85	7.20	137.06	282.90	124.70	0.43	1.11	0.14	0.88
Customer contributions	1.25	0.62	0.18	-	0.52	1.17	1.97	1.05	1.25
Proceeds from disposals	1.83	1.47	1.65	1.50	1.85	1.55	1.81	1.58	1.90
Regulatory depreciation	*1.41*	*2.01*	*2.64*	*3.21*	3.53	4.79	5.37	5.78	6.24
Closing asset base	**91.69**	**95.71**	**101.83**	**111.57**	**232.01**	**269.11**	**270.63**	**277.76**	**285.33**

8.6 Weighted Average Cost of Capital

The Weighted Average Cost of Capital (WACC) for the water industry has been determined by the ESC and published in the ESC Guideline paper.

The benchmark water industry WACC has been applied to support the pricing proposals of GWMWater. Perhaps the most significant issue that GWMWater has in relation to the WACC relates to the application of Financial Accommodation Levy (FAL) to any borrowings that apply to the WMPP.

The initial modeling undertaken in relation to the WMPP assumed that GWMWater finances would be maintained within a range that did not deteriorate beyond a BBB credit rating. By applying this principle, however, it was assumed that GWMWater could continue to borrow at rates that apply to general government borrowings sourced through TCV. In doing so, it was assumed that FAL would not apply to WMPP borrowings.

The recent assessment by Fitch Ratings of GWMWater has given rise to an assessed rating of BBB-. At the time of preparing the plan GWMWater was seeking greater clarity on the basis of the assessment from Fitch Ratings.

GWMWater considers that a primary beneficiary of the WMPP is the environment that any borrowings by GWMWater that can be attributed to the WMPP should be quarrantined from any FAL obligations.

8.7 Renewals Annuity

Through its first determination GWMWater formally departed from the Renewals Annuity as the basis of 'asset consumption' to support pricing decisions.

For most of GWMWater rural infrastructure, this did not present a significant issue. Much of the distribution infrastructure was to be replaced by the WMPP. In the case of headworks, the application of Renewals Annuity was very problematic given the significant time between investments.

In transitioning to the 'building block' approach, however, there were some residual issues to deal with in relation to irrigation services. Upon transition to economic regulation (which coincided with the merger), the cash and renewals accounts were closed. The combined debt as at 1 July 2004 was $1.07 Million and when the irrigators forwent their entitlement to water and in light of this credited the value of the forgone water to the debt to the value of $70,000 leaving an adjusted balance of $1 Million.

As a consequence of the shared strategy developed by GWMWater and the Wimmera Irrigation Sector for the Wimmera Irrigation District, GWMWater has forgiven the debt and associated cost of debt that has been associated with the Wimmera Irrigation Area.

The irrigation prices developed in this Water Plan reflect the anticipated revenue requirement from the irrigation sector when GWMWater is in a position to restore water supply to the irrigation customer base.

8.8 Taxation

GWMWater is subject to the National Tax Equivalents Regime (NTER) in accordance with the broader commitments of state governments through COAG to the application of National Competition Policy.

On transition to the NTER, both GRWA and WMW had significant fixed assets for tax purposes. In light of the substantial assets and the application of accelerated depreciation rates, GWMWater has substantial carry forward NTER losses. These losses continue to be accrued and as a result it is not anticipated that GWMWater will incur any NTER expense for the foreseeable future.

9 PRICES

A consequence of the drought has been the implementation of aggressive demand side measures. These measures have been implemented to manage consumption in response to the reduced water allocations. This creates considerable uncertainty over the revenue streams that are based on the quantity of water delivered or consumed.

Considerable uncertainty exists in relation to the underlying demand for urban water. Water restrictions were escalated to Stage 4 for the majority of GWMWater urban systems in 2006/2007 and it is assumed that these will need to be maintained into the immediate future. In affected towns this has produced up to 50% reduction in water consumption in towns subjected to Stage 4 restrictions and 45% reduction across these towns. This was achieved through the introduction of aggressive conservation and supplementary water supply initiatives that will have a sustained impact on future urban demand and to a lesser extent rural demand.

In rural areas the reduced allocations have lead to further destocking and in some cases the development of alternative water supplies that may become permanent sources of water. The level of future demand will, in the short to medium term, be influenced by the extent that water storages recover and this will also be influenced by the timetable for delivery of the WMPP.

The WMPP will not only change the delivery arrangements for water but will also provide a more reliable system for the measurement of water consumption. The WMPP has been designed on assumptions about stocking levels and other on farm applications for water. These have not been measured in the past and, as a result, some uncertainty remains in relation to accuracy of demand being assumed for the existing rural customers serviced by the WMPP. In addition to the existing demands the WMPP has been underpinned by assumptions relating to growth that will need to be realised. The timeframes for this growth will be contingent upon the extent that water storages recover and the priorities given to consumptive users and/or the environment for water saved as a consequence of piping.

This uncertainty makes it imperative that GWMWater have a flexible form of price control moving forward that allows it to adjust to meet a revenue target that ensures that the WMPP can be delivered and other service and compliance obligations met.

9.1 Urban Tariff Structure

The Board of GWMWater following, consultation with its customer committees, supported a deferral of the implementation of the proposed initiatives of Inclining Block Tariffs, Residential Volumetric Wastewater Charges and Guaranteed Service Levels.

Whilst it is not envisaged that this be formally reviewed until the next regulatory period, the adoption of a tariff basket will provide GWMWater with the opportunity to consider such initiatives through the regulatory period.

9.1.1 Urban Tariff Policy

The Urban Pricing Subgroup of the Urban CAGs convened in early 2007 to review urban tariffs for the 2008-2013 Water Plan. The meeting was aimed at providing an understanding of the current policy position of GWMWater and an update progress in implementing tariff rebalancing as it applies to urban customers. The meeting considered the policy foreshadowed by the ESC in relation to tariff design arising from the first regulatory determination. These included;

- Inclining Block Tariffs;
- Residential Volumetric Wastewater Charges;
- New Customer Contributions;
- Miscellaneous Charges; and
- Guaranteed Service Levels.

Based on the outcomes of discussions with the Urban Customer Advisory Committee - Pricing Sub Group, consensus was reached that priority should be given to a continuation of the tariff rebalancing in the 2008-2013 regulatory period.

Concentration on tariff rebalancing will provide a sound basis for the continued rationalisation of tariffs. It will avoid the confusion that will arise from the many variations that will arise in the event an early introduction of the extended tariff principles. The preferred form of price control of a 'tariff basket' within a 'revenue cap' will provide the flexibility for issues associated with cost allocation between different customer groups as these become better understood and as the WMPP is progressively implemented.

Any consideration of the implementation of GSLs, Inclining Block Tariffs and residential volumetric wastewater charges has been deferred. By rolling any consideration of these initiatives into the next regulatory period, GWMWater will have a more robust knowledge base to support their implementation including a better understanding of the likely impact of any such changes.

Urban tariffs will therefore continue to be a two-part tariff that is only differentiated in accordance with a varying level of service.

9.1.2 Uniform Policy Based on Level of Service

The current urban tariff policy has been in place since 2003 and has been underpinned by the progress transition to a uniform pricing policy. Differentiation under the policy is based on varying service standards or where there is markedly different cost structures based on water source. In order to meet the objectives of the policy a program of progressive rebalancing has been undertaken since 2003.

Water

The current policy framework for the provision of water provides the following principles:

- Non Regulated (Fully Treated) Water Supplies
- Non Regulated (Disinfected) Water Supplies
- Regulated Water Supplies
  - Channel / Pipeline
  - Groundwater
  - Eastern Grampians

Under the water pricing policy there is no differentiation between residential and non-residential customers. The only exception being where different services are being provided and this typically centres upon tapping sizes or provision of a fire service.

Wastewater

In the case of wastewater, the following framework has generally been applied to the tariffs for wastewater services:

- Large Town
- Small Town
- New Town

The grouping of large and small towns has been a convenient grouping of towns through the transition phase. The objective of the policy is to achieve a uniform wastewater tariff in all towns where a common service is provided. In this first regulatory period, GWMWater will achieve convergence with large and small town tariffs.

As a result of the tariff rebalancing arising from the first regulatory period, the delineation between a small and large town has been eliminated. In moving forward the only difference relates to towns that have been recently sewered that attract the New Town Sewerage Rate.

New town sewerage schemes will, however, continue to be assessed differentially and will be considered in the context of the adequacy of customer and other third party contributions to meet the cost of any new schemes.

9.1.3 Vacant Land

These charges presently only apply to towns that are designated 'growth' towns. These are typically associated with new subdivisions awaiting full development and the charge reflects their interim servicing status. The inconsistent application with non-growth corridor towns was identified as an issue from an equity perspective. This issue was raised with the Urban CAG – Pricing Subgroup and they supported the retention of this policy.

9.1.4 Recreational and Concessional Water Users

Under current pricing arrangements recreational and concessional water users have a differential charge applied to service charges and volumetric 'off peak' water consumption. This will be charged at 85% of the price of the releavant volumetric water rate that applies to that particular supply system.

The service charge concession provides for a common water service charge independent of tapping size. The same principle applies to the standard wastewater charge for recreational and concessional customers.

By application to GWMWater, these customers can access an off peak (night watering) discount. Customers accessing the off peak watering service must invest in appropriate metering to ensure water taken under this arrangement can be separately measured.

9.2 Customer Impact Issues

9.2.1 Urban Tariff Rebalancing

Urban tariff rebalancing has been substantially addressed during the first regulatory period. There remain however some outliers from the current policy framework that will roll into the next regulatory period. The most notable outlier relates to the town of Kaniva, Kaniva has come off a low base in terms of both water and wastewater charges and these will be addressed in the next regulatory period. Water charges in Cowangie and Murrayville will also be brought into line with other groundwater towns. In the case of Murrayville, there remain some disparity between residential and non-residential service charges for both water and wastewater services and these will be addressed through the regulatory period.

9.2.2 Service Related Price Adjustments - Water

Undertakings have been entered into with DHS to introduce water quality improvements through the regulatory period. When these improvements are delivered, the relevant tariff will be adjusted to reflect the service being provided. GWMWater has committed to improving water quality in the following towns and the list contains the tariff to be adopted.

Table 9.2.2.1: Water quality undertakings by town

Town	Level of Service	Year of Change
Nhill	Non-Regulated (Full Treatment)	2012-2013
Manangatang	Non-Regulated (Full Treatment)	2008-2009
Ultima	Non-Regulated (Full Treatment)	2008-2009
Lalbert	Non-Regulated (Full Treatment)	2008-2009
Jeparit	Non-Regulated (Full Treatment)	2012-2013
Natimuk	Non-Regulated (Full Treatment)	2011-2012

9.3 Urban Tariff Pricnciples

9.3.1 Bulk Water

Bulk Water is generally governed by the principles of the bulk water entitlement(s) at the headwork's level. The cost of distribution and reticulation is then added in the event that the water is delivered using GWMWater distribution and reticulation infrastructure.

The Wimmera Mallee BE Orders did not prescribe a framework for cost sharing by the respective consumptive water users. The relative share has been based on the underlying security adjusted cost share among consumptive users.

The prices reflect the current headworks operating model but this will be the subject of review as the WMPP is constructed.

The proposed tariff basket approach will provide GWMWater with the flexibility to resolve issues that relate to the relative sharing of bulk water costs and headworks use over the term of the regulatory period.

9.3.2 Retail Water

Retail water services are charged under a two-part tariff and, as identified in the tariff rebalancing section, the differential between residential and residential is being progressively eliminated.

The standard volumetric charge is $1.006 and $291.74 for the service charge for fully treated water. Differential prices apply for water products of lesser quality. In the earlier years of the regulatory period, it is envisaged that price increases will be loaded to the residential service charge to achieve consistency with the non-residential charge. Once achieved in the outward years of the regulatory period price increases will be biased toward the volumetric charge.

This approach will assist with achieving revenue certainty in the earlier years of WMPP financing. The proposed tariff basket will allow these principles to be refined throughout the regulatory period as water supply is restored

9.3.3 Retail Sewerage

The differential between residential and non-residential charges has been substantially dealt with in the first regulatory period.

Non-residential customers that are not the subject of a trade waste agreement will transition to a fixed charge only as is the case with standard residential customers. Customers that are the subject of a minor trade waste service will continue to attract a volumetric charge. It is envisaged, however, that the volumetric rate will be aligned to the volumetric rate that applies to major trade waste customers.

9.3.4 Trade Waste

The principles of trade waste have been discussed in some detail in Section 5.1.16 that deal with the specific obligations of the SOO.

The fixed charges associated with minor trade waste reflect the cost of administering the minor trade waste agreements. The volumetric rate that applies to these customers will be consistent with major trade waste customers with no charges to be levied for other elements of the waste stream.

Major industrial and commercial customers are all managed by agreement. Whilst there are only 11 major trade waste customers, two thirds of the total trade waste revenue is collected from this customer group.

Major trade waste customer charges are based on a user-pays principle. The current volume-based charge is $0.25/KL. Major trade waste parameter charges also provide incentives to reduce the concentration of waste discharged to sewer. This is done by monitoring the concentration of waste for a number of key parameters. The threshold limits provided below indicate the concentration at which no charges apply. Above these threshold concentrations, the specific fees rate applies.

Table 9.7.1: Major trade waste charges

Parameter	Concentration Threshold	$/Kg
Biological Oxygen Demand	> 600 mg/l	0.80
Suspended Solids	> 600 mg/l	0.30
Nitrogen	>150 mg/l	0.10
Phosphorus	>30 mg/l	0.20
Total Dissolved Solids	>200 Kg/day	0.30

Since the move from flat volumetric charges to the introduction of incentive-based charges for quality and quantity in 2004, significant changes have been made by the majority of major trade waste customers. For example, Stawell and Ararat Abattoirs' are working towards on-site pre-treatment to reduce the volume and concentration of discharge to GWMWater's sewer.

The abattoirs at Stawell and Ararat are working towards discharging excess trade waste to sewer in winter months, where their on-site storage is insufficient. The Ararat sausage casing factory is trialing an evaporation system which reduces the amount of its extremely large salt discharge from entering the sewer system and being charged the $0.30/Kg.

Trade waste demand by major customers may increase slightly over the next regulatory period as the agricultural sector recovers after the drought. However, with the level of pre-treatment installed, customers' increased understanding of the impact of the drought and the consequent need for water savings is expected to negate any increase in demand.

As a result of the WMPP there is potential for new major industry to establish in the region. New industries generally take a number of years to establish and if new niche markets are feasible, these industries are likely to connect towards the later part of the 2008-2013 regulatory period, or within the next period.

At present the only new major trade waste customer on the horizon is a food processor in Warracknabeal. They are an existing trade waste customer, but have recently expanded. Their waste strength and salinity level now exceed the By-Law requirements for minor customers. Work is continuing to encourage this customer to reduce their load on-site with appropriate pre-treatment and have them sign a major trade waste agreement.

Whilst there has been a reduction in trade waste revenue in the last couple of years, some of this can be offset by the improvement of quality and reduction of quantity discharged to GWMWater's sewers. This is expected to delay replacement and upgrade costs at Ararat as reflected in the capital expenditure plan proposed. Less odour and blockages have also been observed as a result of improved trade waste management across the whole region.

There is unlikely to be any significant change in the trade waste volumes or strengths during the 2008-2013 regulatory period, nor any marked effect on GWMWater's overall revenue requirement.

9.4 Rural Tariff Principles

Within the Water Plan, businesses need to clearly articulate how proposed tariff structures meet regulatory requirements including the WIRO and Government White Paper.

These principles have been summarised into assessment criteria as shown below:

1. Cost Reflective Test	
1.1 Provides Cost Reflective Signals	Reflects the underlying cost of providing the service
1.2 Promotes Dynamic Efficiency	Provides non residentials appropriate incentives to invest, innovate and improve quality, range and cost of service
1.3 Promotes Productive Efficiency	Provides the appropriate incentives for firms to produce at least cost
1.4 Promotes Allocative Efficiency	Firms employ resources to produce goods and services that provide the maximum benefit to society
1.5 Cost/Benefit Test	The benefits of implementing the tariff outweight the cost of implementation
2. Customer Interest Test	
2.1 Reduced/Transparent/No Cross Subsidies	Cross subsidies are fully transparent and minimised where possible
2.2 Considers Vulnerable Customers	Considers the interests of vulnerable customers
2.3 Provides No Unfair Burdens	Should not unfairly burden specific water users
2.4 Provides Customer Choice	Provides choice to change customer behaviour
3. Sustainability Test	
3.1 Financial Sustainability	Supports long term financial sustainability
3.2 Promotes Efficient Water Use	Customers are encouraged to better use water resources
3.3 Captures Environmental Costs	Reflects the resource scarcity and costs of environmental impacts associated with water services provision
4. Simplicity Test	
4.1 Administrative Efficiency	Should not be excessively costly or cumbersome to administer
4.2 Ease of Communication/Understanding	Should be easy to communicate to customers and understand

9.4.1 Cost Reflective Test

Cost reflectivity has been a key part of the new tariff design with the opportunity to become even more cost reflective as the pipeline is completed and greater understanding of operating and final capital costs are understood.

Fixed Tariff Component

- The Capacity Charge is a key part of the cost reflective tariff. Similar to the approach of charging a meter size multiplier in an urban system it sends a signal to optimize your expected peak capacity drawdown. Charging a meter size multiplier was not possible in the WMPP as the efficient engineering design required customers to received restricted flows and 20mm meters to optimize energy costs. Large volumes would be drawn over a longer period and stored to achieve the desired volumes.

- The Offpeak Capacity Charge is another key cost reflective signal, whereas customers that draw down their water offpeak in the winter months enjoy a reduced capacity charge. This is reflective of the capital savings enjoyed by the reduction in the peak flow engineering design.

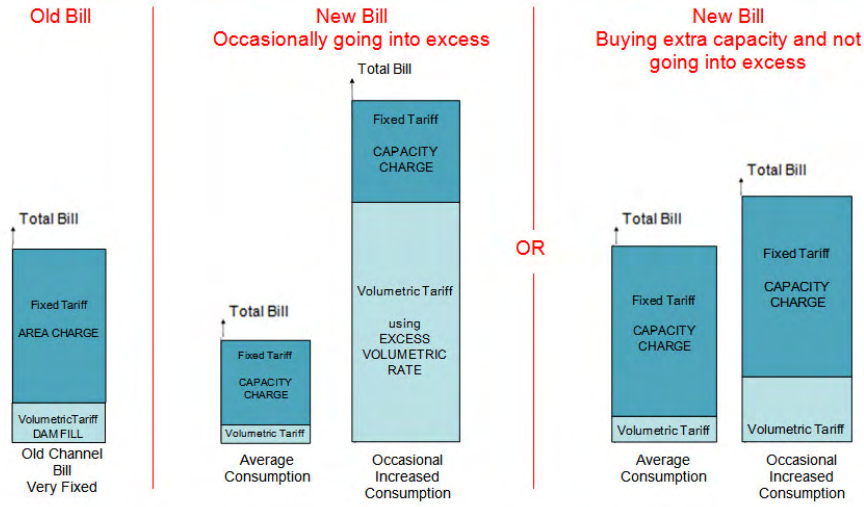
Volumetric Tariff

- The volumetric rate is the best estimate of the LRMC of the new pipeline system and is based on the Northern Mallee volumetric rate. The excess volumetric rate is also cost reflective as it is based on a short term lease of additional capacity within the pipeline system.

9.4.2 Customer Interest Test

The new tariff provides customers significant choice as it is a movement away from a fixed area charge to a user pays approach with additional opportunities to optimise their water bills through the purchase or sale of growth water.

For example a customer with large catchment dam capability and expecting only occasional WMPP usage could use the WMPP as insurance in years that his catchment dams have low yields.



If for example they were only drawing on the pipeline once every six years then this farmer would be better off occasionally going into excess without purchasing additional capacity in the system. This depends on the expected frequency they may be going into excess.

The greater the frequency of consumption in the excess volumetric rate the more likely that optimisation of water bill will require additional capacity through the purchase of growth water.

For large intensive customers the tariff will be more cost reflective than the past and ensures there is no cross subsidy in place. All intensive water users and old Supply by Agreement customers are being transitioned to the new tariff over a three year period to ensure any adverse impact is minimised. Combined with the opportunity of an offpeak product for these customers it is considered efficient, staged and equitable.

As a part of the pipeline project Recreation Water is to receive a cross subsidy as this was a key part of the original project community consultation.

9.4.3 Sustainability Test

The tariff supports achieving the revenue requirement that is required, minimising cash flow variability whilst giving customers greater choice. Most importantly it stimulates additional growth water sales to support the financing of the WMPP and supports longer term viability of the business.

The tariff promotes efficient use of water as it comprises a rising block tariff which gives customers an understanding of what resource they have within the system and with future trading the cost/value of attaining additional resource.

9.4.4 Simplicity Test

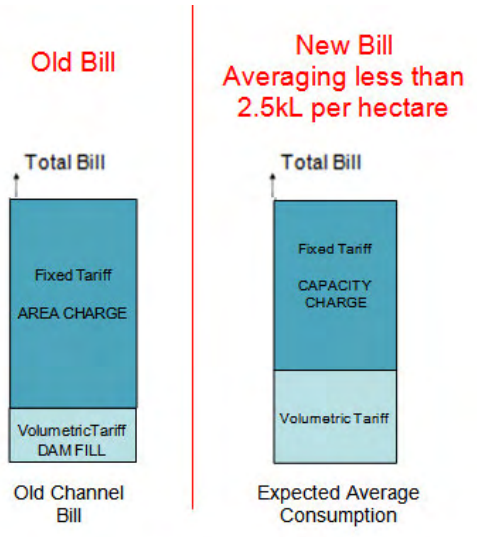
The tariff is simple to administer and communication to date has been well received.

Average customer expecting to use less than 2.5kL / hectare

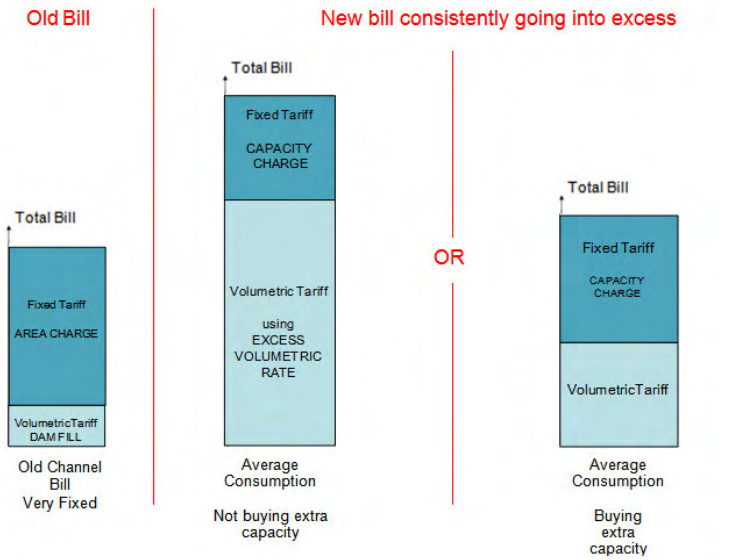
This customer would not need to consider purchasing additional capacity within the system to optimise their water bill as they are already consuming within the first volumetric step.

Since the tariff is now user pays they have greater control over their bill and the movement away from a more fixed area charge tariff means they may even reduce their bill if they consume under the average consumption.

Customer expecting to use more than 2.5kL per hectare



This customer would optimise their bill based on the frequency of consumption over the 2.5kL per hectare allowance. If they are only occasionally over 2.5kL/hectare then they would be best to occasionally go into the excess volumetric rate similar to the Southern Farmer example. If they are consistently over 2.5kL/hectare then they may be better off buying additional capacity.



9.4.5 Stock and Domestic

Stock and Domestic customers will transition into the next regulatory period with the proposed new pipeline tariff. This tariff will apply to all existing NMP customers and customers that have converted to the new pipeline system delivered under the WMPP. The existing hectare, dam fill and associated minimum charge will continue to apply until such time as channel supply customers are converted across to the WMPP.

For pipeline supply customers the proposed three-tiered charge will be applied. This will be based on:

- A primary service charge and a supplementary service charge for subsequent tapping points.
- A capacity charge based on the nominal allocation of water applying the rate of 2.5 ML per hectare.
- A volumetric charge applying the principles of an inclining block to manage demand in the early stages of the WMPP.

The tariff has been designed to accommodate water trading within the pipeline should the government policy of unbundling extend to D&S customers.

9.4.6 Lalbert Pipeline

The Lalbert pipeline system is a small (1,200 ha) pipeline system which is serviced from the urban supply system at Lalbert, which is supplied from the NMP system, and hence is required to comply with allocations for the BEs from the Murray River system. The supply to Lalbert was from the channel system up until 2004 when it was converted to supply from the Cannie Reidge extension of the NMP.

Usage in the pipeline system is metered. Note that while restrictions have been in place since 1999-2000, the move to supply from the NMP is not considered to have a major impact on demands given total typical consumption of about 2-3 ML per year.

9.4.7 Private Pipeline Schemes

There are also three private pipeline schemes supplied from the Murray system under GWMWater's Murray River BE.

GWMWater has supply agreements with these customers in relation to licensing costs for diversions from the Murray River, but all operational costs are met directly by the members of the schemes.

9.4.8 Supply by Agreement

Supplies by Agreement customers are non-D&S customers that are located within the general rural waterworks district.

These customers are large water users that are part of the stock and domestic water supply system. In transitioning to a pipeline supply, there are some significant price increases for customers that have been serviced by the channel network.

The level of water security required by these customers is such that they need to maintain there existing storage capability.

9.4.9 Irrigation

The WIA is not a prescribed irrigation district in accordance with section 230, and as outlined in schedule 12, of the Water Act 1989. The irrigation area covers approximately 3,000 ha and provides services in and around Horsham, Quantong, Murtoa and Drung. There are presently 216 irrigators supplied from the system.

Within the irrigation area there are also 23 corporate bodies and residential subdivisions supplied by the irrigation system. The Wimmera River Weir Pool is treated as part of the irrigation system and entitlement holders receive the irrigation area allocation. All water entitlements in WIA are currently bundled with land.

Almost all of the properties with an irrigation supply are within the Wimmera Mallee Waterworks District and also receive a stock and domestic supply.

The normal irrigation season runs from 1 October to 30 May. Irrigators may access allocations of up to 200% of entitlement if sufficient water is available. Orders are placed for irrigation and meters read up to four to five times a season assuming monthly meter reads once irrigators receive sales water.

9.4.10 Irrigation Drainage

GWMWater presently maintains irrigation drainage infrastructure in the WIA.

Following consultation with irrigators, it was agreed that the cost of providing irrigation drainage service be recovered as part of the overall irrigation service and that an irrigation drainage charge not be introduced.

9.4.11 Diversions

All diversion licences issued by GWMWater are for unregulated waterways. The relevant waterways for which licences are issued include the Wimmera, Avoca, Richardson and Glenelg rivers.

The metering of diversions is the key cost driver for diversion services and the proposed pricing reflects the cost of licencing and metering diversions.

9.4.12 Groundwater

Groundwater services provided by GWMWater relate to the licencing of groundwater activities.

The extent of oversight is more intensive in areas where the sustainability of the groundwater resource is considered and, in these areas, there is a differential price to reflect the extent of this oversight.

9.4.13 Diversions

The metering of diversions is the key cost driver for diversion services and the proposed pricing reflects the cost of metering diversions.

9.4.14 Recycled Water

All recycled water services provided by GWMWater involve the provision of Class C effluent. The uses of recycled water centre upon the provision of water for irrigation in agricultural and recreational activities and are typically serviced by dedicated infrastructure.

The provision of recycled water services is governed by recycled water agreement that also outlines the commercial basis of supply. The price also reflects any contribution by individual customers on a scheme-by-scheme basis.

9.5 Customer Contributions

GWMWater supports the approach to Customer contributions as they apply to urban water and wastewater services based on the model developed for the water industry by Vicwater.

There remain, however, a number of issues that relate to the servicing of new customers for the WMPP that remains under consideration. The cost of any scheme will be considered on a 'scheme by scheme' basis. A set of principles has been established for the cost attribution to new customers depending upon whether the scheme is within the existing rural waterworks district(s).

9.6 Form of Price Control

The considerable uncertainty faced by GWMWater over the regulatory period is such that the form of Price Control sought is a tariff basket in the context of an overall Revenue Cap.

This uncertainty relates to a number of different factors that will impact differently on the costs and revenues for GWMWater. These include but are not necessarily limited to the:

- extent that water storages will receive any reasonable rainfall;
- extent that if water storage levels recover there will be a significant demand response;
- ultimate cost of delivering the Wimmera Mallee Pipeline;
- extent that growth water sales are realised following completion of the WMPP; and
- cost of operating and maintaining the Wimmera Mallee Pipeline.

The combined effect of one or all of these variables could have a material impact on the financial outlook of GWMWater, sufficient to give rise to a reopening of the price determination. This uncertainty may be effectively managed by the adoption of a 'revenue cap' that provides for a 'tariff basket' approach to price control and thus mitigating against the need of any reopening of the determination.

A tariff basket will allow GWMWater to progressively review the underlying costs of servicing individual customer groups throughout the regulatory period. This will be assessed as it progressively refines the operating model and realizes opportunities arising from the merger, WMPP and the introduction of SCADA.

9.7 Adjusting Prices

GWMWater is seeking a tariff basket inside a revenue cap as the basis of price control. There will need to be an annual reset of prices and underlying tariffs to reflect the level of accommodation afforded by the revenue cap. This mechanism can adequately deal with the significant volumetric price risk that confronts GWMWater.

GWMWater would only seek adjustment to the revenue cap if there were a material variance in its capital planning assumptions. This is only likely to occur if the scope of the capital program changes materially and this risk rests primarily with the cost of delivering the WMPP.

9.8 Changes in Legislative Obligations

In preparing this Water Plan, GWMWater has not foreshadowed any legislative changes over and above those already identified.

Whilst not necessarily a legislative change, GWMWater has predicted changes in the bulk entitlement that will require a Ministerial Order. The current bulk water entitlement will require amendment to reflect the changed water allocation rules as the WMPP is progressively implemented.

Beyond the changes required to reflect the revised water shares arising from the WMPP. There may be a need to further amend the bulk entitlement in the event that the Western

Water Supply Strategy concludes that there has been a contraction in the available water resource as a consequence of any impact of climate change.

10 NON PRESCRIBED SERVICES

10.1 Classification of Services as Non-Prescribed

The only non-prescribed service of GWMWater relates to the purchase and sale of bulk water entitlement.

The sale and purchase of water takes place in an open market. The market will influence the price of water and water will be sold and purchased in accordance with its appropriate value. GWMWater will only hold sufficient water to meet expected consumptive requirements for water.

10.2 Expenditure and Revenue Associated with Non-Prescribed Services

GWMWater's investment in the WMPP is realising 103,000 ML of water that is presently lost through the distribution network, and 20,000 ML of this water is to be made available for new development in the region. This is creating an asset that will progressively become available for new development.

This water is to be traded in the market at an appropriate value that is to be realized in the market.

A framework for the Sale of Growth Water within the WMPP has been established to reflect a price that substantially recovers the cost within the tariff. The approach to the sale of growth water (ex headworks) including the sale of water to Hamilton is to be determined in accordance with White Paper policy requirements.

10.3 Capital Charge for Growth Water

The capital charge for growth water (water entitlement) is not a prescribed service under Section 6 of the WIRO.

The capital charge needs to be considered in the context of the capital cost incurred by GWMWater to win water savings from piping the system. At the current level of funding, GWMWater is paying $6,550 per ML for water savings from the WMPP. By including the contributions from the region in the form of on farm works, the cost of winning water savings is $10,650 per ML. These values ignore any other benefits that are derived from the WMPP in terms of improved water quality and / or water security.

A key strategy for GWMWater is the development of a water trading market where water can be traded freely within the Wimmera Mallee system subject to any delivery constraints. In the absence of a water trading market, GWMWater has established a 'reserve price' of $2,500 per ML for growth water sold ex headworks.

This 'reserve price' of $2,500 per ML has been used as an internal hurdle price for internal evaluations that involve the use of growth water. The $2,500 per ML was used to support the decision to pipe water from Dimboola to Nhill as an extension of the WMPP.

10.4 Miscellaneous Charges

The number and extent of miscellaneous charges for GWMWater have been rationalized significantly.

Where possible, these have been brought into line with the proposal recently developed by Vicwater for miscellaneous charges to achieve greater consistency across the water industry.

11 TARIFF PROPOSALS

11.1 Overall Level of Increase 2008-2009

The level of increase across GWMWater will vary and will be targeted toward beneficiaries of the WMPP within the framework of the overall pricing policies. There is also a loading of increases to customers who have previously been the recipient of discounting.

Table 12.1.1: Specific Increases for Typical Customer Groups 2008-2009

Customer Group	Price Increase % Nominal
Urban Water	18.2
Urban Wastewater	14.0
Rural Supply by Agreements	81.3
Rural Domestic and Stock #	
NMP Domestic and Stock (Pipe)	14.5
WMPP Domestic and Stock (Pipe)	14.5
WM Domestic and Stock (Channel)	5.0
Irrigation ##	36.0
Groundwater	6.0
Diversions	6.0
Bulk Water	12.0

\# *Channel supply customers to receive a lesser increase to align the price increase with the improved service of the WMPP*

\## *Irrigation tariff will continue to be a drought tariff until water supply capability is restored. Revenue shortfalls will be recovered in subsequent years of the regulatory period.*

This level of price increase and tariff proposals applies to the underlying demand assumptions outlined below.

11.2 Urban Tariffs

Urban tariffs continue to be developed in the context of the quality of the service being provided with some differentiation on water source where this presents a different underlying cost structure.

11.2.1 Water Service Levels

The uniform tariff structure is based on the two parameters of water quality and capacity of service.

Water Quality

The level of treatment received underpins water services and pricing for these services. The services and the relevant towns are summarised below:

Group 1 – Treated Water

Common 'treated water tariff' for all towns supplied with fully treated water, regardless of source of supply:

Birchip	Ouyen	Great Western	Warracknabeal
Charlton	Rainbow	Halls Gap	Murtoa
Dimboola	St Arnaud	Pomonal	Ararat
Hopetoun	Edenhope	Stawell	Horsham
Willaura	Lake Bolac	Underbool	

Group 2 – Partially Treated Water

Common 'disinfected water tariff' for all towns supplied with partially treated water, regardless of source of supply:

Beulah	Minyip	Watchem	Lalbert
Brim	Manangatang	Woomelang	Ultima
Walpeup	Nullawil	Wycheproof	Rupanyup
Donald	Quambatook	Sea Lake	Jung

Group 3 – Untreated Supplies

Common tariff for all towns supplied with regulated/untreated water via channel/WMPP or NMP:

Antwerp	Marnoo	Pimpinio	Culgoa
Berriwillock	Nandaly	Speed	Lascelles
Clear Lake	Chillingollah	Tarranyurk	Patchewollock
Dooen	Underbool	Tempy	Chinkapook
Glenorchy	Natimuk	Waitchie	Yaapeet
Jeparit	Noradjuha		

Group 4 – Eastern Grampians Pipeline

Regulated water supplied by Eastern Grampians Pipeline:

Buangor	Elmhurst	Wickliffe	Moyston

Group 5 - Groundwater

A common tariff applies to all groundwater towns as regulated water supply

Apsley	Kaniva	Murrayville	Westmere
Cowangie	Kiata	Nhill	
Goroke	Lillimur	Serviceton	
Harrow	Miram	Streatham	

Capacity of Service

Table 12.2.1: Capacity of Service

Meter Size	Service Charge Multiplier
20	1
25	1.6
32	2.6
40	4
50	6.25
65	10
70	16
75	16
80	25
100	25
150	56.25
200	100

The Service Availability Charge (SAC) multiplier attempts to reflect the incremental capacity required for large users.

11.2.2 Urban Water and Wastewater Tariffs 2008-2009

The urban water and wastewater tariffs are underpinned by a philosophy of the underlying level of service differentiated by the underlying water resource.

Water

Water charges are underpinned by the product quality philosophy identified above with all values expressed in nominal dollars.

Table 12.2.2 2008-2009 Tariffs Proposed for Water Services

	Full Treatment		*Partial Treatment*		*Untreated*	
	SAC	**Vol**	**SAC**	**Vol**	**SAC**	**Vol**
Pipeline/Channel	$310.00	$1.20	$290.00	$1.10	$260.00	$1.05
Groundwater	N/A	N/A	N/A	N/A	$260.00	$0.65
Eastern Grampians	N/A	N/A	N/A	N/A	$260.00	$0.85
Kaniva					$235.00	$0.65

Wastewater

The differential between residential and non-residential service charges has been removed, the disposal charge for non-residential customers reduced and a trade waste service fee introduced.

Table 12.2.3: Wastewater Charges for Small and Large Towns 2008-2009

Towns on Higher Level Tariff $320.00 Disposal Charge $0.50 (Non Residential) Trade Waste Fee $110	**New Town Sewerage Tariff $330 Disposal Charge $0.50 (Non Residential) Trade Waste Fee $110**
Ararat	Ouyen
Charlton	Minyip
Dimboola	Hopetoun
Donald	Edenhope
Horsham	Halls Gap
Murtoa	
Rainbow	
St Arnaud	
Stawell	
Warracknabeal	
Birchip	
Jeparit	
Natimuk	
Sea Lake	
Willaura	
Serviceton	
Wycheproof	
Nhill	

Tariff rebalancing in Kaniva will continue to be transitioned. A rate of $280 will be applied to wastewater in 2008/2009.

The reference tariff for the New Town Sewerage Scheme towns of Hopetoun, Minyip and Ouyen will provide modest increases to produce tariffs of $330 in 2008/2009. Special tariffs apply to Edenhope and Halls Gap to reflect the compliance obligations associated with servicing these two towns.

As was the case with water, the relativity between residential and non-residential wastewater tariffs will be narrowed.

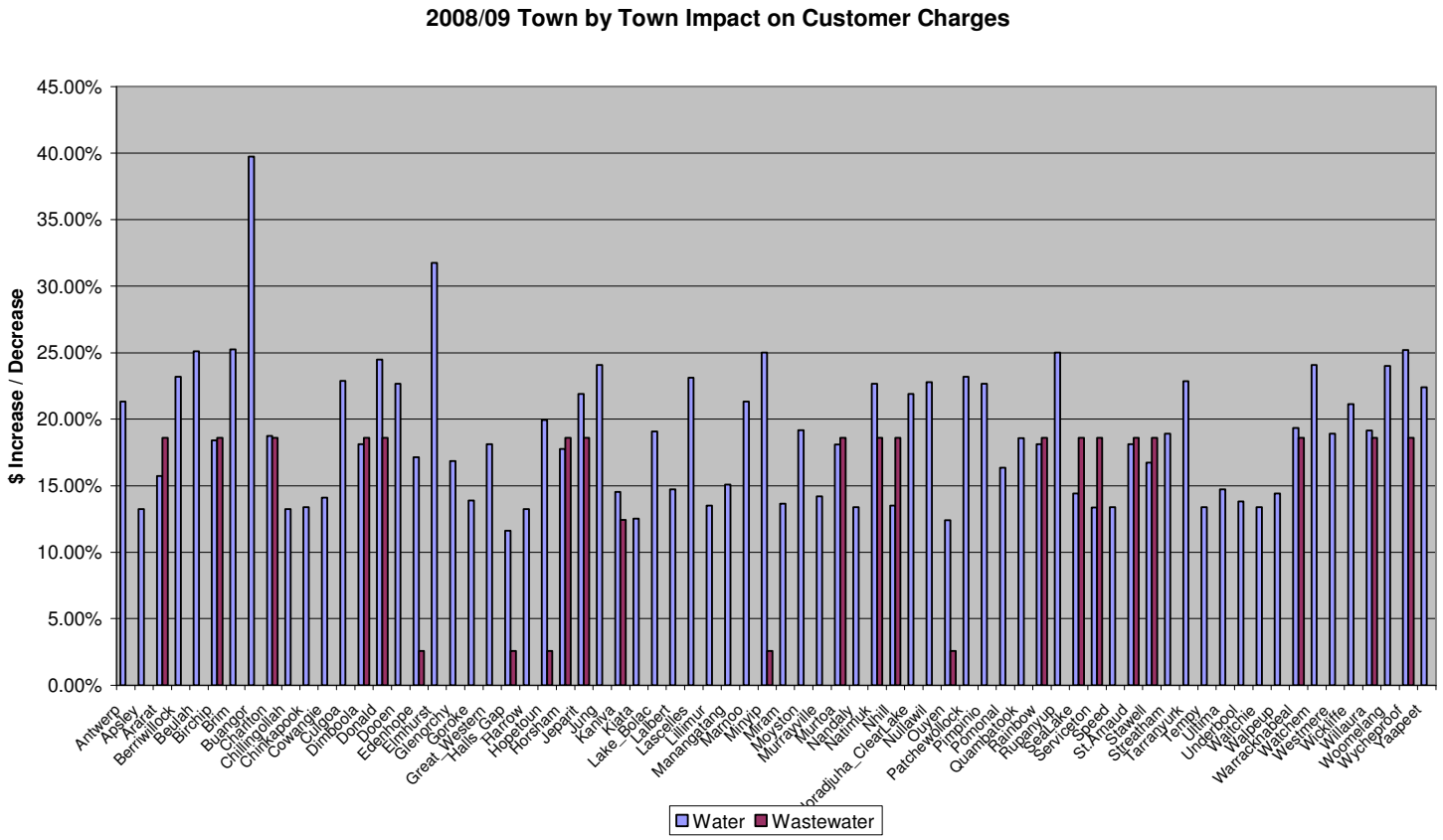
11.2.3 Common Water and Wastewater Charges

It has also been assumed that all concessional customers will continue to attract a lesser service charge for both water and wastewater services but this charge has been increased to $205 for water and $195 for waste in 2008/2009.

The development rate for newly subdivided land is $150 for both water and wastewater services in 2008/2009.

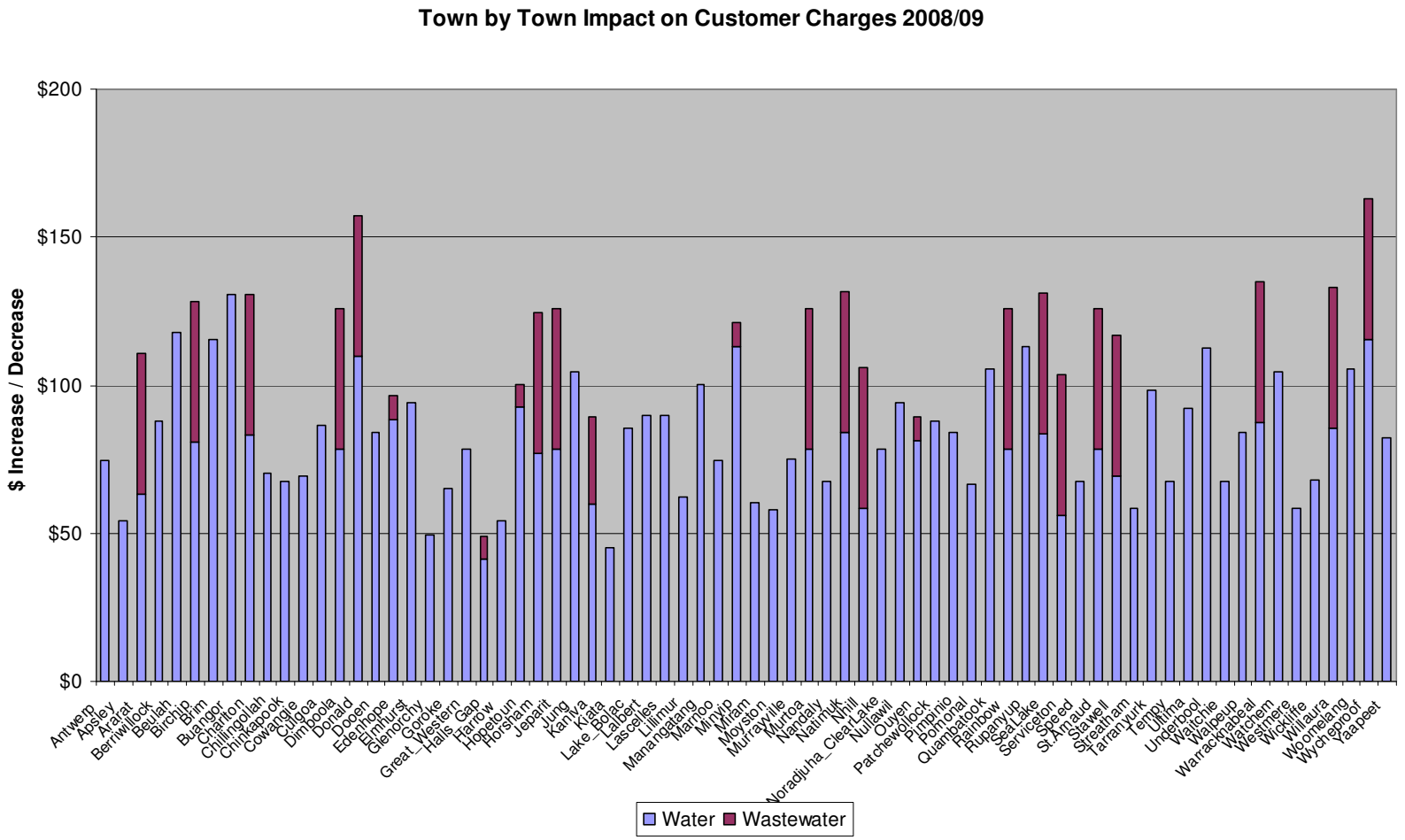
11.2.4 Impact of Changes in Urban Water and Wastewater Charges

Figure 12.2.1: Town-by-Town Impact on Residential Customers



A consequence of tariff rebalancing, residential customers will incur a greater share of the proposed 18% nominal price increase.

Figure 12.2.2: Town-by-Town Impact on Customer Charges



The above figures are based also assume the revenue effects of a progressive relaxing of water restrictions.

11.3 Rural Water Services

There is an expectation that rural water service prices will increase in accordance with the global increase established by the global revenue requirement.

The outcome of the consultative processes of the MJA Pricing Review identified substantial concerns about the equity of the current tariff structures for rural water services of GWMWater. This centred primarily on the inequity of the hectare charge in the domestic and stock tariff. The equity and efficiency issues of the WMPP tariff have been under consideration by the RTWG for the past eighteen months.

The tariffs and the underlying level of increase inherent in them are aligned to the improved service afforded by the WMPP. The alignment of the pipeline tariff to a more immediate increase is consistent with the general policy already established that price increases be aligned to the improved service. D&S Channel Supply increases are therefore more modest.

SBA to industry will be receiving a significant price increase. This reflects an attempt to start addressing the level of subsidy provided to these customers under existing supply arrangements.

In the case of irrigators, the level of increase has been set at a level that addresses the changed headworks cost allocation formula inherent in the Wimmera Mallee Bulk Water Entitlement Order. In striking this tariff however it has been assumed that the existing 'special drought' tariff would continue to apply until reasonable supply capability was achieved for the irrigation sector.

11.3.1 Nominal Impact of Rural Tariff Changes

An analysis was done on the impact of this proposed one off tariff change. The results are as follows:

Figure 12.3.1: Percentage increase experienced by Domestic and Stock Customers

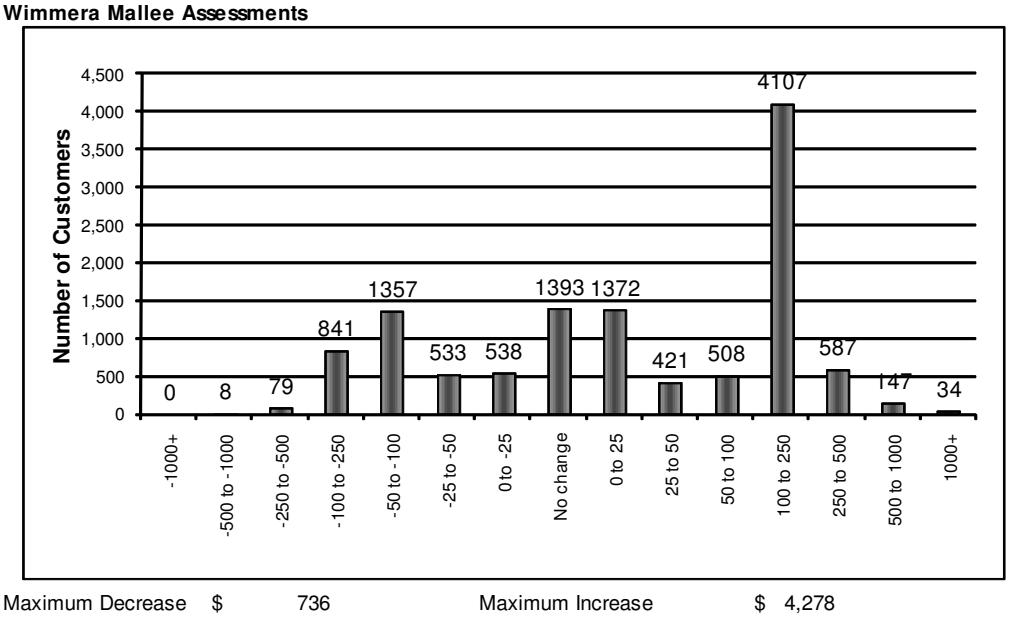
	Number of assessments	Assessment Bill Impact							
Assessment Impacts		Number Increase	Proportion Increase	Number Decrease	Proportion Decrease	Average $ Change	Average % Change	Maximum Increase ($)	Maximum Decrease ($)
WMP CUSTOMERS	11,925	7,176	60.2%	3356	28.1%	$ 67.39	13.69%	$ 4,278	$ 736
NMP CUSTOMERS	3,237	2,426	74.9%	588	18.2%	$ 120.83	14.51%	$ 25,332	$ 721
TOTAL	15,162	9,602	63.3%	3,944	26.0%	$ 78.80	13.86%	$ 25,332	$ 736

Although WMP tariffs also increased by 14.5% this tariff increase will take a few years to flow through as customers connect to the pipeline. The existing channel tariffs are increasing nominally at 5.0% have to have the price impact coincide with the improved level of service. Within the first year of the regulatory period it is estimated over 50% of the customers will be on the new pipeline tariff and 100% by the third year. The maximum assessment increase is just over $4,000 and this is a large consumer on a relatively small land holding.

The average percentage change for Wimmera customers (channel and pipeline) is influenced by the improved supply capability and the associated demand response.

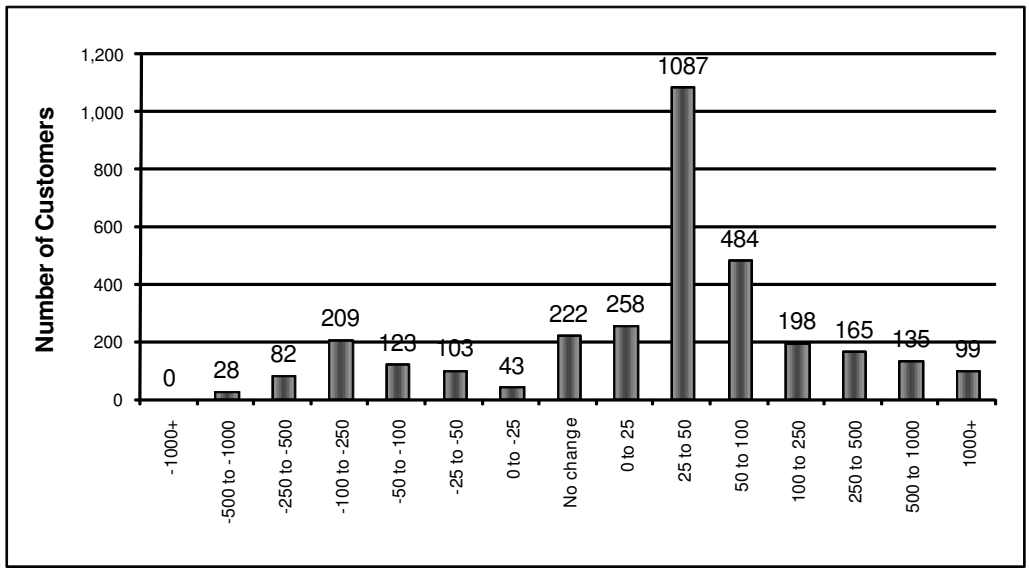
The NMP achieves the 14.5% increase but with one customer's bill increasing by over $25,000. This customer has been identified and is a large manufacturing operation and although this is still a 14.5% increase on their bill they will also have the potential to look at an off peak tariff.

Table 12.3.1 – Wimmera Mallee Assessments



Maximum Decrease $ 736 Maximum Increase $ 4,278

Table 12.3.2 – Northern Mallee Assessments



Maximum Decrease $ 721 Maximum Increase $ 25,332

For rural pricing, the specific tariff detail is to be the subject of further consultation with the community.

11.4 Proposed Tariffs

GWMWater tariff proposals are being progressed in the context of a total revenue requirement for the Corporation.

11.4.1 Urban Tariffs

Urban tariffs are being expressed in terms of a total revenue requirement within a framework of tariff rebalancing. The urban tariffs being proposed expressed in nominal dollars are summarised in Tables 12.4.1.

Table 12.4.1 – Urban Water and Sewerage Charges - Schedule of Tariffs 2008-2009 (Nominal)

	Water						Sewerage					
Town	Volumetric	Residential SAC	Non Residential SAC	Concessional	Vacant Land	Fire Service / Standpipe	Volumetric	Residential SAC	Non Residential SAC	Concessional	Vacant Land	Trade Waste
Antwerp	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Apsley	$ 0.6500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Ararat	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ 150.00	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ 150.00	$ 110.00
Berriwillock	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Beulah	$ 1.1000	$ 290.00	$ 305.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Birchip	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ -	$ 110.00
Brim	$ 1.1000	$ 290.00	$ 305.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Buangor	$ 0.8500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Charlton	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ -	$ 110.00
Chillingollah	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Chinkapook	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Cowangie	$ 0.6500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Culgoa	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Dimboola	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ -	$ 110.00
Donald	$ 1.1000	$ 290.00	$ 305.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ -	$ 110.00
Dooen	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Edenhope	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 330.00	$ 330.00	$ 195.00	$ -	$ 110.00
Elmhurst	$ 0.8500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Glenorchy	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Goroke	$ 0.6500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Great_Western	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ 150.00	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Halls_Gap	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ 150.00	$ 315.00	$ 0.50	$ 330.00	$ 330.00	$ 195.00	$ 150.00	$ 110.00
Harrow	$ 0.6500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Hopetoun	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 330.00	$ 330.00	$ 195.00	$ -	$ 110.00
Horsham	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ 150.00	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ 150.00	$ 110.00
Jeparit	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ -	$ 110.00
Jung	$ 1.1000	$ 290.00	$ 305.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Kaniva	$ 0.6500	$ 235.00	$ 275.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 280.00	$ 280.00	$ 195.00	$ -	$ 110.00
Kiata	$ 0.6500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Lake_Bolac	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Lalbert	$ 1.1000	$ 290.00	$ 305.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Lascelles	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Lillimur	$ 0.6500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Manangatang	$ 1.1000	$ 290.00	$ 305.00	$ 205.00	$	$ 315.00	$	$	$	$	$	$
Marnoo	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Minyip	$ 1.1000	$ 290.00	$ 305.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 330.00	$ 330.00	$ 195.00	$ -	$ 110.00
Miram	$ 0.6500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Moyston	$ 0.8500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Murrayville	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Murtoa	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ -	$ 110.00
Nandaly	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Natimuk	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ -	$ 110.00
Nhill	$ 0.6500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ -	$ 110.00
Noradjuha_ClearLake	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Nullawil	$ 1.1000	$ 290.00	$ 305.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Ouyen	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 330.00	$ 330.00	$ 195.00	$ -	$ 110.00
Patchewollock	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Pimpinio	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Pomonal	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ 150.00	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Quambatook	$ 1.1000	$ 290.00	$ 305.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Rainbow	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ -	$ 110.00
Rupanyup	$ 1.1000	$ 290.00	$ 305.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
SeaLake	$ 1.1000	$ 290.00	$ 305.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ -	$ 110.00
Serviceton	$ 0.6500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ -	$ 110.00
Speed	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
St.Arnaud	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ -	$ 110.00
Stawell	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ 150.00	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ 150.00	$ 110.00
Streatham	$ 0.6500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ -	$ 110.00
Taits_Lane	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ 150.00	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Tarranyurk	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Tempy	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Ultima	$ 1.1000	$ 290.00	$ 305.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Underbool	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Waitchie	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Walpeup	$ 1.1000	$ 290.00	$ 305.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Warracknabeal	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ -	$ 110.00
Watchem	$ 1.1000	$ 290.00	$ 305.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Westmere	$ 0.6500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Wickliffe	$ 0.8500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Willaura	$ 1.2000	$ 310.00	$ 322.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ -	$ 110.00
Woomelang	$ 1.1000	$ 290.00	$ 305.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -
Wycheproof	$ 1.1000	$ 290.00	$ 305.00	$ 205.00	$ -	$ 315.00	$ 0.50	$ 320.00	$ 320.00	$ 195.00	$ -	$ 110.00
Yaapeet	$ 1.0500	$ 260.00	$ 285.00	$ 205.00	$ -	$ 315.00	$ -	$ -	$ -	$ -	$ -	$ -

Water Tariffs

	Full Treatment		*Partial Treatment*		*Untreated*	
	SAC	**Vol**	**SAC**	**Vol**	**SAC**	**Vol**
Pipeline/Channel	$310.00	$1.20	$290.00	$1.10	$260.00	$1.05
Groundwater	N/A	N/A	N/A	N/A	$260.00	$0.65
Eastern Grampians	N/A	N/A	N/A	N/A	$260.00	$0.85
Kaniva					$235.00	$0.65

Wastewater Tariffs

Towns on Higher Level Tariff $320.00 Disposal Charge $0.50 (Non Residential) Trade Waste Fee $110	**New Town Sewerage Tariff $330 Disposal Charge $0.50 (Non Residential) Trade Waste Fee $110**
Ararat	Ouyen
Charlton	Minyip
Dimboola	Hopetoun
Donald	Edenhope
Horsham	Halls Gap
Murtoa	
Rainbow	
St Arnaud	
Stawell	
Warracknabeal	
Birchip	
Jeparit	
Natimuk	
Sea Lake	
Willaura	
Serviceton	
Wycheproof	
Nhill	

Tariff rebalancing in Kaniva will continue to be transitioned. A rate of $280 will be applied to wastewater in 2008/2009.

Major Trade Waste Charges

Parameter	**Concentration Threshold**	**$/Kg**
Biological Oxygen Demand	> 600 mg/l	0.80
Suspended Solids	> 600 mg/l	0.35
Nitrogen	>150 mg/l	0.10
Phosphorus	>30 mg/l	0.20
Total Dissolved Solids	>200 Kg/day	0.30

11.4.2 Rural Tariffs

Table 11.4.2. Rural Tariffs

2008-2009 Rural Water Tariffs	
Channel Supplied	
Area charge (per ha)	$3.12
Minimum Area charge	$370.00
Damfill Fee (per fill)	$89.25
Channel Diversion Fee	$89.25
Excess Water Fee (per ML)	$300.00
Channel Commercial SBA Rate (Per ML)	$315.00
Channel Recreation SBA Rate (Per ML)	$42.00
Pipeline Supplied	
Capacity Charge (per ML)	$652.55
Minimum Capacity Charge	$230.00
Usage charge – first step within allocation & allowance (per kL)	$0.7557
Usage charge – second step over 1st Step and within 125% of allocation & allowance (per kL)	$1.0305
Usage charge – Excess Rate over 125% of allocation & allowance (per kL)	$2.6335
Primary Meter Charge (per Meter)	$229.00
Standard Meter Charge (per Meter)	$114.50
Staged Commercial SBA Capacity Charge (Per ML)	$300.00
Staged Commercial SBA Volumetric Rate (Per ML)	$300.00
Staged Recreational SBA Capacity Charge (Per ML)	$0.00
Staged Recreational SBA Volumetric Rate (Per ML)	$114.50
Commercial SBA Offpeak Capacity Charge (Per ML)	$229.00
Walpeup West Bores	
Area charge (per ha) – Division 2	$1.98
Area charge (per ha) – Division 2 Special	$0.59
Area charge (per ha) – Division 3	$0.99
Area charge (per ha) – Division 3 Special	$0.30
Minimum Area charge	$370.00
Irrigation Area - Wimmera	
Drought Tariff Levied Up Until First Irrigation Supply Period	
Temporary Drought Supply Charge (<50ML entitlement)	$600.00
Temporary Drought Supply Charge (>50ML entitlement)	$1,000.00

2008-2009 Rural Water Tariffs	
Standard Irrigation Tariff – Supply And Non Supply Years	
Supply Charge	$1,000.00
Capacity Charge per ML entitlement	$56.00
Minimum Capacity Charge per ML entitlement	$8.50
Sales Water Usage charge (per ML)	$35.00
Wimmera River Weir Pool (per ML)	$136.00
Groundwater (Private Diverters)	
Licence Fee	$79.50
Volumetric charge (per ML) - Neuarpurr Area	$3.08
- Murrayville Area	$7.14
- Telopea Downs Area	$4.98
- All other Areas (incl. Apsley & Kaniva)	$2.15
Surface Water	
Regulated Streams, Weir Pools and Storages (per ML)	$12.60
Minimum charge (15 ML)	$189.00
Unregulated Waterways – On-stream storages (per ML)	$5.97
Minimum charge (15 ML)	$89.68
Unregulated Waterways – Off-stream storages (per ML)	$2.97
Minimum charge (15 ML)	$44.52
Domestic & Stock etc. 12 Month Licences	
Streams & Lakes	
(1) Single unit, farm use*	$81.30
(2) Each additional unit**	$40.65
(3) Guest Houses, Hotels, Motels, Caravan Parks etc.	$121.90
Storages & Weir Pools	
(1) Single unit, farm use*	$121.90
(2) Each additional unit**	$60.95
(3) Guest Houses, Hotels, Motels, Caravan Parks etc.	$182.85

* *Each of the following comprises a single unit of use: Domestic (on house), Dairy, Piggery, Nursery (Maximum 2.2 ML /pa), Domestic & Stock, Poultry.*

** *Where same pump is used for irrigation supply this fee applies for D&S allocation.*

11.4.3 Developer Contributions

The AMS has now evolved sufficiently to provide information to support the hydraulic modeling that is used to determine the pricing framework for developer contributions.

This will be supported by the completion of the Bulk Water Entitlement conversion process that will clearly establish the yield of the Grampians storage system.

The ESC in its 2008 Water Price Review Guidance Paper has developed a model for new customer contributions. GWMWater accepts this as the approach to the development of urban services. However, GWMWater does not necessarily accept this approach to funding rural developments and more particularly the WMPP and will be progressing the issues for new customers in rural developments with the ESC during the period of the Exposure Draft.

11.4.4 Trade Waste

The Trade Waste pricing of GWMWater has been developed for Category 3 and 4 customers and is presently part of a two-year implementation process.

The minor trade waste audit is presently being completed to determine the number of Category 1 or Category 2 Trade Waste customers and the information collected will be used as the basis of any future rebalancing of urban charges.

11.4.5 Miscellaneous Charges

Many of the miscellaneous charges of GWMWater are prescribed as a multiple of charge units under the Water Act.

GWMWater will generally comply with the principles developed jointly by the ESC and Vicwater relating to the provision of miscellaneous services. These will more generally be underpinned by reference to a clearer definition of cost plus as the basis of miscellaneous charges.

A detailed schedule of miscellaneous charges has been included in Appendix 10.

APPENDIX 1. STATEMENT OF OBLIGATIONS

Available at www.gwmwater.org.au

APPENDIX 2. WATER INDUSTRY REGULATORY ORDER

Available at www.gwmwater.org.au

APPENDIX 3: CAPITAL EXPENDITURE FORECAST AND DELIVERY

Projects and costs that now will be incurred in the 2008-2013 period	Overall difference ($'000)
Forecast expenditures on water quality improvements included in the 2006-2008 Water Plan will be less than that incurred. Planning, investigations and consultation for a number of the forecast projects has been concluded and added to this Water Plan. This includes major expenditures on both completing water quality improvements and undertaking further investigations particularly focusing on water to be supplied by the WMPP.	(891)
Investigation and scoping of Willaura wastewater treatment plant will be completed in 2008/2009 with construction being undertaken in 2009/2010 rather than in the current Water Plan period.	(433)
Sewer infill in Sth Horsham has been deferred into the 2008 Water Plan period primarily as a result of ongoing discussions with the Horsham Rural City Council.	(200)
Corporate capital expenditure relating to communication and remote access infrastructure and the associated consolidation of GWMWater's office accommodation has not been able to be achieved primarily because of the difficulty in securing an appropriate solution. This matter will be addressed in the 2008 Water Plan period.	(595)
Other minor projects with costs deferred to the 2008 Water Plan period.	(200)
Expenditure deferred to the 2008 Water Plan period.	**(2,319)**

Budgeted differences

Budgeted differences, where the budget is in excess of actual/planned expenditure or expenditure is in excess of budget can be construed in both positive and negative ways. These relate to where the planned outcome has been achieved at a cost different to that forecast in the 2006-2008 Water Plan. These are provided below.

Budgeted differences	Overall difference ($'000)
Dam safety work at Taylors Lake and projects to address identified OH&S issues have advanced due to a risk mitigation assessment.	440

Projects and costs that now will be incurred in the 2008-2013 period	**Overall difference ($'000)**
A number of projects were inadvertently omitted from the 2005 water plan, the major one being GWMWater's contribution towards the upgrading of Nhill WWTP.	3,283
There were a number of projects where budget and forecast levels differed as a result of change in scope. The primary projects in this group comprised of:	
• increased expenditure on water main replacements (13%) to improve performance against service standard targets;	203
• increased cost for water meter replacements to ensure compliance;	111
• completion of Willaura WTP was delayed from 2005/2006 to 2006/2007;	1,098
• implementation of the Supervisory Control and Data Acquisition (SCADA) network has been accelerated to improve asset information;	(231)
• change in scope to provide solutions for Halls Gap WWTP and the Alfred Street outfall augmentation; and	(742)
• increased scope of work through more thorough risk assessments.	229
Other minor projects where the projected outcome has been achieved at a cost different to that forecast in the 2006-2008 Water Plan.	(40)
Minor levels of forecast expenditures when incurred were assessed to be operating expenditures. The overall outcomes of the identified projects were achieved.	(210)
Increased expenditure resulting from projects being delivered at a cost different from that forecast in Water Plan 2005.	**4,411**

Compliance with regulatory requirements

Based on a risk management framework, GWMWater identified a number of projects either to ensure compliance or to mitigate the risk of non-compliance since the Water Plan 2005 was written. These include:

Compliance with regulatory requirements	**Overall difference ($'000)**
Water quality upgrades for compliance	1,265

Projects and costs that now will be incurred in the 2008-2013 period	**Overall difference ($'000)**
Renewal of sewer stacks	360
Drought related projects (Horsham and Donald)	1,000
Upgrading of Huddleston Weir (funded by the Wimmera Catchment Management Authority (CMA)	300
Scoping projects for compliance work to be completed in 2008 Water Plan period	200
Other minor compliance projects.	1,179
Increased expenditure resulting from additional compliance work	**4,304**

Projects deferred based upon risk assessed priorities	**Overall difference ($'000)**
Various projects for delivery of irrigation/rural water deferred as a result of the limited water available for delivery.	(1,312)
Water reuse related projects deferred as a result of limited sustainable end use customers identified to fund the expenditures.	(393)
Minor renewals to two reservoirs deferred pending completion of the WMPP.	(241)
Deferral of WWTP upgrades based upon reassessed risk assessments (Dimboola and Ararat).	(1,797)
Replacement of Mount Cole pipeline pending reconsideration of optimal solution.	(1,088)
Other projects	(1,652)
Reduction in expenditures resulting from deferral of projects	**(6,483)**

Reduction in expenditures from other minor projects	**(350)**

Overall difference between 2005 Water Plan capital expenditure forecasts and planned expenditures to 30 June 2008 (excluding contributions.	**(707)**

APPENDIX 4 KEY LEGISLATION, REGULATION AND POLICY

Legislation/regulation/policy	Key implications relevant to capital expenditure
SOO	• The overarching objectives that govern the operations of GWMWater are set out in the SOO, as set out earlier (as required by the Water Industry Act).
Water Industry Regulatory Order (WIRO)	• To provide a framework for economic regulation by the ESC for services provided by the regulated water industry.
Water Act 1989	• Act under which GWMWater has been established • Set out functions of water and sewerage service providers • Requires preparation of Statement of Corporate Intent • Water services agreement
Water (Governance) Act 2006	• Requirement to become a corporation • Sets out accountability and responsibilities • Introduces sustainable management principles
Safe Drinking Water Act 2003	• Require water suppliers and storage managers to prepare and implement plans to manage risks in relation to drinking water and some types of regulated water; • Provide for the auditing of those plans • Require water suppliers to ensure that the drinking water they supply meets quality standards specified by the regulations • Requires water suppliers to report and disclose information concerning the quality of drinking water
Environmental Protection Act 1970	• Establishes principles of environmental protection • Statement of environment protection policy (SEPP) – air, water, groundwater, noise • Licences and works approval for 'prescribed activities'
Essential Services Commission Act 2001	• Basis of economic regulation • Requires establishment of Customer Charter (see below) • Requires ESC to approve water plan • Service standards for water and waste water services • Level of capital expenditure included in the price
Water Industry Act 1994	• Water Industry Regulatory Order (WIRO) • SOO (see above)
Health Act 1958	• Ensure equity in health • Help people live as long as possible
Safe Drinking Water Act 2005	• Establishes the requirement for the supply of drinking water
Food Act 1984	• Requirements for the supply of non-regulated water for food businesses
Fluoride Act 1973	• Power to add fluoride to water supplies
OH&S Act 2004	• Establishes the five key principles of Occupational Health & Safety that GWMWater is required to reflect in its work place
Road Management Act 2004	• Reform the law relating to road management in Victoria
White Paper Our Water Our Future (June 2004)	• Government's policy for the water sector in Victoria. • Various performance targets required to achieve the policy
ANCOLD Guidelines	• Whilst these guidelines have no legislative backing they are

Legislation/regulation/policy	Key implications relevant to capital expenditure
	accepted by the industry and Governments as requirements of dam management
Corporate plan including Statement of corporate intent (both prepared annually)	• Vision & mission • Key result areas • Forecast capex and opex • Forecast price levels • Forecast financial performance
DSE Policy Objectives recycled water	• Policy outlining objectives for recycled water use. • Currently in draft
State government's environmental white paper; Our Environment Our Future	• Policy to be adopted in managing the environment
Strategic Plan 2006-2011	• Board approved Key Result Areas for GWMWater
Customer Charter (Urban)	• Standards of service GWMWater is obliged to be delivered to customers • Conditions of service provision • GWMWater's rights • Customer consultation obligations • Dispute resolution provisions
Customer Charter (Rural)	• Conditions of service provision • GWMWater's rights • Customer consultation obligations • Dispute resolution provisions
Bulk Entitlement Orders	• Documents the operating rules and water sharing arrangements that exist for storages
Catchment and Land Protection Act	• Control of weeds

APPENDIX 5 RECYCLED WATER USE

TOWN	Influent	On-Site Irrigation	Off-site Irrigation	Evaporation	Discharge to waterways	Volume of Reuse
Ararat	832	427	405	0	0	832
Birchip	52	52	0	0	0	52
Charlton	37	37	0	0	0	37
Dimboola	89	89	0	0	0	89
Donald	113	113	0	0	0	113
Edenhope	188	0	188	0	0	188
Halls Gap	137	135	2	0	0	137
Horsham	1130	255	875	0	0	1,130
Jeparit	42	0	0	42	0	0
Kaniva North	90	0	0	90	0	0
Kaniva South	90	0	0	90	0	0
Murtoa	88	88	0	0	0	88
Natimuk	23	0	0	23	0	0
Nhill	165	164	1	0	0	165
Rainbow	36	0	0	36	0	0
Sea Lake	55	55	0	0	0	55
Serviceton	5	0	0	5	0	0
St Arnaud	171	170	1	0	0	171
Stawell	444	279	165	0	0	444
Warracknabeal	109	0	109	0	0	109
Willaura	26	0	0	12	14	0
Wycheproof	41	41	0	0	0	41
Total	**3963**	**1905**	**1746**	**298**	**14**	**3651**

APPENDIX 6. CORE SERVICE STANDARDS – URBAN SERVICES

Service Standards	Water Plan Targets 2006-08		Water Plan Targets 2008-013				
Water	**06/08**	**07/08**	**08/09**	**09/10**	**10/11**	**11/12**	**12/13**
Rate of unplanned water supply interruptions (per 100 km) [1]	90	90	40	40	40	40	40
Avg. time to attend bursts and leaks – Priority 1	30	30	30	30	30	30	30
Avg. time to attend bursts and leaks – Priority 2	60	60	60	60	60	60	60
Avg. time to attend bursts and leaks – Priority 3	60	60	60	60	60	60	60
Proportion of water supply interruptions restored within 5 hrs - Unplanned	97.5	97.5	97.5	97.5	97.5	97.5	97.5
Proportion of water supply interruptions restored within 5 hrs – Planned	95	95	95	95	95	95	95
Average customer minutes off supply - Unplanned	20	20	20	20	20	20	20
Average customer minutes off supply - Planned	12	12	12	12	12	12	12
Average frequency of water supply interruptions - Unplanned	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Average frequency of water supply interruptions - Planned	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Average duration of water supply interruptions - Unplanned	100	100	100	100	100	100	100
Average duration of water supply interruptions – Planned	240	240	180	180	180	180	180
Number of customers experiencing five (5) unplanned water supply interruptions %	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Level of unaccounted for water % [2]	14.00	14.00	14.0	12.0	12.0	10.0	10.0
Sewerage							
Rate of sewerage blockages (blockage per 100km main)	36.00	36.00	36	36	36	36	36
Average time to attend sewer spills and blockages (min)	30	30	30	30	30	30	30
Average time to rectify a sewer blockage (min)	180	180	180	180	180	180	180
Proportion of spills contained within a specified time – 3 hrs Priority 1 (%)	97.00	97.00	98	98	98	98	98
Proportion of spills contained within a specified time – 3 hrs Priority 2 (%)	97.00	97.00	98	98	98	98	98
Number of customers experiencing three (3) sewer blockages	0	0	0	0	0	0	0
Odour complaints as a % of customers	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Customer Service							
Complaints to EWOV (per 1000 customers)	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Frequency of telephone calls answered within 30 seconds – Account line (%)	80	80	80	80	80	80	80

Service Standards	Water Plan Targets 2006-08		Water Plan Targets 2008-013				
Frequency of telephone calls answered within 30 seconds – Fault line (%)	80	80	80	80	80	80	80
Minimum flow rate							
20 mm – 10 l/m 25mm – 25 l/m, 32 mm – 40 l/m, 40 mm – 60 l/m, 50mm – 100 l/m							

1. *Target is based on the latest six months of data as previous figures were over reported.*
2. *There is a plan currently being developed to reduce unaccounted water. This will be progressively implemented over the Water Plan period.*

APPENDIX 7. CORE SERVICE STANDARDS – RURAL SERVICES

Service Standards	Water Plan Targets 2008-013				
	08/09	09/10	10/11	11/12	12/13
Gravity Supply (by district/supply system) [1, 2]	N/A	N/A	N/A	N/A	N/A
Pumped Supply (by district/supply system)					
Unavailability of stock and domestic supply systems for continuous periods in excess of 8 hours (%) [4]	2	2	2	2	2
Number of pipeline bursts and leaks (per 100 km of pipeline) [4]	10	10	10	10	10
Unaccounted for water (per cent) [4]	10	8	8	8	8
Irrigation Drainage (by district/supply system) [1]	N/A	N/A	N/A	N/A	N/A
Bulk Water					
Annual compliance with storage operator obligations (per cent)	100.00	100.00	100.00	100.00	100.00
Licensing/administration					
Applications for new groundwater & supply-by-agreement licences determined within [60] days (%)	80.00	80.00	80.00	80.00	80.00
Applications for renewal of groundwater licences determined within [40] days (%)	80.00	80.00	80.00	80.00	80.00
Applications for new surface diversion determined within [22] days (%)	80.00	80.00	80.00	80.00	80.00
Appl for renewal of surface diver & supply-by-agreement licences determined within [22] days (%)	80.00	80.00	80.00	80.00	80.00
Processing permanent transfer or surface diversion or groundwater licences within [60] days (%)	80.00	80.00	80.00	80.00	80.00
Processing temporary transfer of water entitlement volumes within [15] days (per cent)	80.00	80.00	80.00	80.00	80.00
Processing permanent transfer of water entitlement volumes within [60] days (per cent)	80.00	80.00	80.00	80.00	80.00
Number of diversion licences metered or assess for metering at 30 June (per cent)	90.00	90.00	90.00	90.00	90.00
Volume of total surface water and groundwater entitlements metered at 30 June (per cent)	85.00	85.00	85.00	85.00	85.00
Customer Service					
Complaints to EWOV (number)	0.90	0.90	0.90	0.90	0.90
Telephone calls answered within 30 seconds (per cent)	80.0	80.0	80.0	80.0	80.0

1. *The current irrigation district has not received allocations for over eight years and is currently undergoing reconfiguration. Hence no targets have been set at this particular time.*
2. *Due to the introduction of the WMPP and phasing out of channel systems in GWMWater no targets are being proposed for this indicator and GWMWater are not proposing to develop a system for the collection and reporting of this data.*
3. *There is no proposal to provide piped irrigation service at this point in time and therefore there is no requirement for this to be reported.*
4. *Little historical information is available to accurately predict a target for this indicator but best judgement and the condition of assets have been taken into consideration.*

APPENDIX 8. CAPITAL EXPENDITURE PROGRAM - SUMMARY

Project Overview	Funding Water Plan Period	Total cost 07/08 to 12/13 6 Years	2007/08	Water Plan Period				
				2008/09	2009/10	2010/11	2011/12	2012/13
OVERALL TOTAL	128,123,000	638,706,430	297,357,960	251,027,460	45,039,282	11,776,242	15,680,486	17,825,000
Corporate program		19,888,930	4,853,960	4,057,460	2,597,282	3,140,242	2,779,986	2,460,000
Infrastructure		618,817,500	292,504,000	246,970,000	42,442,000	8,636,000	12,900,500	15,365,000
Excluding WMPP	3,673,000	69,517,500	9,914,000	10,260,000	12,442,000	8,636,000	12,900,500	15,365,000

Specific Projects

Towns	Line of Business	Project Description	Funding Water Plan Period	Total cost 07/08 to 12/13 6 Years	2007/08	Water Plan Period				
						2008/09	2009/10	2010/11	2011/12	2012/13
Various	WW Treat	Investigation of Desludging		50,000				50,000		
Murtoa	WW Disposal	Flood irrigation tail water system		123,000						123,000
Halls Gap	WW Disposal	Additional Reuse for golf club		120,000	20,000	100,000				
Horsham	Wastewater	Horsham South Sewer Infill	880,000	880,000				880,000		
Halls Gap	Wastewater	DSE Directed Sewer Infill		330,000						330,000
Dimboola	Wastewater	DSE Directed Sewer Infill		330,000						330,000
Nhill	Wastewater	DSE Directed Sewer Infill		330,000						330,000
Jeparit	Wastewater	No 1 SPS Upgrade		150,000	150,000					
Willaura	WW Disposal	Winter Storage and Reuse		523,000	20,000	50,000	453,000			
Birchip	WW Treat	Additional Winter Storage -Review		20,000						20,000
Stawell	WW Treat	WWTP Upgrade		2,234,000		50,000	50,000	2,134,000		
St Arnaud	WW Treat	WWTP Upgrade		1,925,000		100,000	1,825,000			
Nhill	WW Treat	WWTP Upgrade and Winter storage		2,170,000	800,000	1,370,000				
Warracknabeal	WW Treat	WWTP Upgrade		1,600,000	600,000	1,000,000				
Nhill	WW Disposal	Reuse project pipes & pumps		428,000				428,000		
Various	Wastewater	Sewer main replacement costs		1,650,000	250,000	200,000	300,000	300,000	300,000	300,000
Various	Wastewater	SPS replacement costs		1,350,000	100,000	100,000	250,000	300,000	300,000	300,000
Various	Wastewater	Sewer Stacks Replacement program		450,000	300,000	50,000			100,000	
Various	WW Treat	STP Major infrast replacement		585,000	100,000		25,000	460,000		
Ararat	Wastewater	Outfall Sewer Augmentation		25,000	25,000					
Rupanyup	Wastewater	New Sewerage Scheme	985,000	2,595,000	80,000				200,000	2,315,000
Lake Bolac	Wastewater	New Sewerage Scheme	546,000	2,062,000	2,500	159,500	1,900,000			
Great Western	Wastewater	New Sewerage Scheme	232,000	1,190,000	2,500				187,500	1,000,000
Horsham	WW Treat	Horsham WWTP Inlet Works		130,000	130,000					
Various	Water	Wimmera Mallee Pipeline Project	124,450,000	548,000,000	282,000,000	236,000,000	30,000,000			
Various	Water	Wimmera Mallee Pipeline Project – Fire Plugs		1,300,000	590,000	710,000				

Towns	Line of Business	Project Description	Funding Water Plan Period	Total cost 07/08 to 12/13 6 Years	2007/08	Water Plan Period				
						2008/09	2009/10	2010/11	2011/12	2012/13
Various	Water Treat	Investigation of WMPP Centralised Plant		250,000					250,000	
Various	Water	Investigation of Potential Supply New Towns		50,000			50,000			
Horsham	Water Storage	Horsham Low Level Storage Water Quality Improvement		430,000					30,000	400,000
Horsham	Water Storage	Morson Pump Station Non Return Valve Replacement (deep valve)		150,000						150,000
Edenhope	Water	Water supply security		2,300,000	100,000	1,100,000	1,100,000			
Nhill	Water Treat	Treated water supply	225,000	10,900,000				400,000	5,000,000	5,500,000
Ultima	Water Treat	Water Supply Upgrade		340,000	35,000	305,000				
Lalbert	Water Treat	Water Supply Upgrade		340,000	35,000	305,000				
Manangatang	Water Treat	Water Supply Upgrade	250,000	399,000	35,000	364,000				
Underbool	Water Treat	Stage Treatment Plant construction		340,000	340,000					
Natimuk	Water Treat	Treated Water Supply		1,524,000				100,000	1,424,000	
Jeparit	Water Treat	Treated Water Supply		2,278,000					200,000	2,078,000
Various	Water Retic	Water main replacements		5,150,000	1,000,000	830,000	830,000	830,000	830,000	830,000
Various	Water Treatment	WTP major infrastructure replacement costs		2,315,000		400,000	525,000	500,000	440,000	450,000
Various	Water Retic	WPS replacement costs		500,000		60,000	80,000	100,000	120,000	140,000
Various	Water Storage	Water Storage Tanks Rehabilitation and Replacement		250,000		50,000	200,000			
Various	Groundwater	Urban Bores Rehabilitation and Replacement		100,000				50,000	50,000	
Various	Water	Water Meters Rehab and Replacement Urban Bulk		125,000		25,000		50,000		50,000
Various	Water	Urban Bores Rehabilitation and Replacement		60,000				60,000		
Donald	Water	Donald Drought groundwater & desalination		500,000	500,000					
Ouyen	Water Treat	Ouyen WTP Membrane Replacement		250,000	250,000					

Towns	Line of Business	Project Description	Funding Water Plan Period	Total cost 07/08 to 12/13 6 Years	2007/08	Water Plan Period				
						2008/09	2009/10	2010/11	2011/12	2012/13
Halls Gap	Water	Augmentation of Headwork Capacity		117,000	117,000					
Horsham	Water Treat	Mt. Zero Lime System Upgrade		100,000	100,000					
Horsham	Water	Horsham Wellfield Development		100,000	100,000					
Various	Water Retic	Urban Meter Replacement		1,110,000	230,000	176,000	176,000	176,000	176,000	176,000
Various	D&S Pipeline	Rural Meter Replacements		236,500	64,000	112,500			60,000	
Various	Corp Infrast	SCADA (additional cost in WMPP)		4,050,000	900,000	2,000,000	1,000,000	50,000	50,000	50,000
Various	Water	Mt Cole Pipeline		100,000					100,000	
Irrigation	Irrigation	Irrigation Network Replacements (Contingent on Irrigation run)		180,000				50,000	80,000	50,000
Headworks	Headworks	Dam Safety Work Lake Lonsdale		1,200,000			150,000	1,050,000		
Headworks	Headworks	Dam Safety Works Lake Fyans		2,700,000				150,000	2,550,000	
Headworks	Headworks	Dam Safety Review review of low hazard and urban		300,000	300,000					
Headworks	Headworks	Reservoir minor renewals		1,045,000		125,000	240,000	240,000	225,000	215,000
Headworks	Headworks	Rocklands channel seepage & rehabilitation		700,000			700,000			
Headworks	Headworks	Toolondo Channel Seepage & rehabilitation		700,000	250,000		450,000			
Headworks	Headworks	Taylors Lake Dam Safety		1,180,000	1,180,000					
Headworks	Headworks	Taylors Lake Embankment works		1,700,000		150,000	1,550,000			
Headworks	Headworks	Huddleston's Weir Upgrade (funded by CMA)		400,000	400,000					
Headworks	Headworks	Headwork Channel Bridge Replacements Item		600,000	300,000		300,000			
Headworks	Headworks	Rocklands sector valves reconditioning		80,000	80,000					
DS	D&S Channels	Northern windmills - replacement		270,000	70,000	40,000	40,000	40,000	40,000	40,000
Various	Groundwater	Groundwater Meter Replacement Program		80,000	80,000					
Various	Headworks	Surface Water Diversion Metering (100 locations)	380,000	680,000	300,000	380,000				

Towns	Line of Business	Project Description	Funding Water Plan Period	Total cost 07/08 to 12/13 6 Years	2007/08	Water Plan Period				
						2008/09	2009/10	2010/11	2011/12	2012/13
Various	Groundwater	Groundwater Monitoring Program - Observation Bore Construction and Monitoring Equipment		200,000	50,000	150,000				
Developer	Water	Developer Works Planning and Supervision	87,500	399,000	66,500	66,500	66,500	66,500	66,500	66,500
Various	Wastewater	Developer Works Planning and Supervision	87,500	399,000	66,500	66,500	66,500	66,500	66,500	66,500
Various	Water	Contribution towards Developer Works		75,000	12,500	12,500	12,500	12,500	12,500	12,500
Developer	Wastewater	Contribution towards Developer Works		75,000	12,500	12,500	12,500	12,500	12,500	12,500
Corporate	Corporate	Motor Vehicle Replacement		13,298,230	2,309,260	2,562,460	2,193,282	2,238,242	2,104,986	1,890,000
Corporate	Corporate	Plant & Machinery Repl - Wide area review and Purchase (incl minor equipment)		1,340,700	134,700	335,000	34,000	332,000	305,000	200,000
Corporate	Corporate	Office Fit-out & Redevelopment		540,000		500,000	10,000	10,000	10,000	10,000
OHS	Water	OH&S Review & Priority Works		225,000	90,000	75,000	15,000	15,000	15,000	15,000
OHS	Wastewater	OH&S Review & Priority Works		225,000	90,000	75,000	15,000	15,000	15,000	15,000
Corporate	Corporate	Infrastructure – Software		1,500,000	500,000	400,000	100,000	300,000	100,000	100,000
Corporate	Corporate	Infrastructure - Hardware		1,250,000	250,000	200,000	200,000	200,000	200,000	200,000
Corporate	Corporate	IT Communications (incl remote access)		360,000	60,000	60,000	60,000	60,000	60,000	60,000
Nhill	Corporate	Contribution to WMPP for Increased capacity for Nhill Supply		1,600,000	1,600,000					
Corporate	Infrastructure	GIS		220,000	50,000	120,000		50,000		
Corporate	Infrastructure	Asset Management Plan & system upgrades/development		270,000	130,000	80,000	60,000			

APPENDIX 9. TOP TEN CAPITAL PROJECTS

Project Name / Location ~ Service

Nhill Treated Water Supply

Background and Problem Statement

Nhill is the largest town currently receiving non-potable water. Water is currently sourced from groundwater bores located in the town. Community consultation has indicated that the community would like to have improvement in its water supply. 3 options have been considered for supply. They are water supply from the WMPP with treatment at Nhill or at Dimboola or desalination of the current bores. The decision on the implementation of the centralized treatment plant for WMPP will affect the choice of options.

DHS has also identified Nhill as a priority one water upgrade town.

Risks Addressed

Health risk of non-potable water

Directives or other requirement for project, e.g. legislative requirements

DSE directive and community seeking improvement

Expected Outcomes

Treated Water Supply for Nhill and possibly the towns en route.

Proposed budget

$10,900,000

Basis of Cost Estimate

Report for Nhill Treated Water – Expanded Option Evaluation and Concept Design April 2007

Options Considered

- Treatment Plant at Nhill
- Treatment Plant at Dimboola
- Treatment of ground water

Proposed preferred option: Treatment plant at Dimboola.

Intangible Commercial Impacts

Possibility of treated water to towns en route (depending on option).

Improvement of public health for residents, businesses and visitors.

Improved regional tourism growth.

Improved wastewater treatment and reuse operations

Reduction in demand on the groundwater source, depending on option.

Environmental Considerations

Brine disposal of membrane treatment of ground water.

Demand on groundwater source.

Financial Impact

CTWSSP of $25 000 for concept design (received). Further funding of $140 000 for detailed design (07/08). A further funding of $225 000 may be provided for the implementation.

Sunk costs of the WMP upgrade to Dimboola of $3.1 million have not been included in the total cost.

Cost to recoup from water tariff increase

Implementation Plan

Proposed for detail design to start in Year 2010/11 and be completed by Year 2013. The water quality from the completed WMPP supply and the outcome of the investigation of the centralised WWTP for the WMPP supplied towns will affect the final implementation of the scheme.

References

- Water Treatment/Supply Options for Nhill- Feasibility Review Final Report GHD October 2004 M2006/7253
- Report for Nhill Treated Water – Expanded Option Evaluation and Concept Design April 2007 Trim I2007/5061
- CTWSSP Letter Trim I2006/7926
- DSE letter on CTWSSP Trim I2006/4678
- DSE letter on CTWSSP Trim I2006/4910

Project Name / Location ~ Service

Edenhope Water Supply Security

Background and Problem Statement

The primary source of water for Edenhope, Lake Wallace has dried up during the prolonged drought conditions. A temporary bore supply has been established but it is highly saline. To deal with the salinity of the bore water, a reverse osmosis plant has been installed. The need for a long-term sustainable supply has been identified, as has a need to reduce the cost of treatment. The RO plant is getting towards the end of its useful life and parts of the plant are due for replacement.

The approval for disposal of brine to the wastewater system is an ongoing issue with the EPA.

Risks Addressed

Risk mitigation of water sustainability

Risk mitigation of EPA license requirement of brine disposal

Directives or other requirement for project, e.g. legislative requirements

Water security

Expected Outcomes

Established source of water supply that has a lower NPV

Proposed budget

$2,200,000

Basis of Cost Estimate

In-house estimate, assuming that the water source is about 20km to the west of Edenhope.

Options Considered

- Lake Wallace
- Local Bore Supply
- Remote Low Salinity Bore Field

Proposed option: Remote low salinity bore or local bore supply

Intangible Commercial Impacts

O&M cost

Improved customer supply

Environmental Considerations

Brine disposal

Financial Impact

The NPV cost of the preferred option to be lower than current treatment from local bores.

Implementation Plan

A geohydrological study to identify alternative locations of supply, trial bores followed by production bores and pipeworks

References

- Edenhope Long Term Strategy M2007/1437
- Development of Long Term Water Supply Strategy for Edenhope, Report on Options, GHD Consulting 2003

Project Name / Location ~ Service

Stawell WWTP Upgrade

Background and Problem Statement

The Grampians Pyrenees Regional Development Board representing 31 000 residents of Northern Grampians Shire, Ararat Rural City and Pyrenees Shire Councils has written to request the Authority to bring forward a project for treatment of wastewater to Class A for reclaimed use.

Stawell WWTP is a 49 year-old trickling filter plant with open cold digestion for solids stabilisation. There are significant issues relating to the existing plant.

- The open sludge digester is close to the property boundary and is approximately 200m to the nearest house. The digester is vulnerable to odour generation and requires considerable operator attendance for operation and maintenance.

- No secondary clarifier (humus tank) is provided after the trickling filters and the effluent is directed to undersized humus lagoons that require desludging annually.

- The inlet and grit removal structure is located above the plant control room. The plant inlet structure is known to overflow at times of heavy rainfall and subsequently floods the control room. The elevated grit chamber and manually raked screen create manual handling and OHS issues.

- The maturation lagoon is 27% full of sludge due to solids carry-over from the humus lagoons. The lagoon needs rock beaching to minimise scour from wave action and also internal baffling to prevent short-circuiting in the square shaped lagoon.

EPA has also commented on minor cracks and leakage from the trickling filters and questioned the performance of the plant as it fails in E. coli, N, P and pH limits.

Treatment to Class A, requires an upgrade/new treatment plant, which would also address the current plant performance issues. 2 options are proposed, i.e. a new MBR plant or extension of existing plant with a microfiltration unit.

Risks Addressed

Directives or other requirement for project (e.g. legislative requirements)

EPA has noted E.coli, N, P and pH exceeded license maximum.

Expected Outcomes

An upgraded plant producing a quality of effluent for more flexible uses within the community enabling establishment of a sustainable and economical solution to for reuse opportunities to benefit the community.

Proposed budget

$2,234,000

Basis of Cost Estimate

In-house estimate based on EPCM method for a new MBR system.

Earth Tech Upgrade Options Report with 5% increase/year adjustment.

Options Considered

1. Do nothing (Class C effluent during dry weather)
2. Refurbishment of existing plant based on a hybrid system (Class C effluent)
3. New MBR treatment plant (Class A effluent)
4. Incorporating Microfiltration to existing plant (Class A effluent)

Proposed option: New MBR treatment plant.

Intangible Commercial Impacts

EPA compliance with improved reliability of wastewater treatment

Impact on third party reuse scheme that will provide a positive impact on regional growth.

Environmental Considerations

Current non-compliance in effluent discharge

Sewage overflows at inlet

Financial Impact

Consideration of O&M cost.

External funding possible.

Sale of Class A effluent

Implementation Plan

Maybe integrated with a proposed upgrade at St Arnaud WWTP

References

- Upgrade Options for Stawell's Wastewater Pump Station, Rising Main and Treatment Plant Final Functional Design Report – Earth Tech October 2004 Trim I2004/6633

- Revised Wastewater Management Plan 2004 Trim I2004/3275
- Letters by EPA Trim I2007/726
- Letter by Grampians Pyrenees Regional Development Board 2 May 2007 Trim I2007/5077
- Stawell WWTP EIP 2001 RMCG Trim M2007/1354
- EPA License O:\Wastewater Management\WWTP Manual - Stawell

Project Name / Location ~ Service

Rupanyup Sewerage Scheme

Background and Problem Statement

Rupanyup does not have a reticulated sewerage system, rather is serviced by septic tanks. It has been identified as a priority town to receive a new sewerage scheme under the Country Towns Water Supply and Sewerage Program, funded by DSE.

Risks Addressed

Risk mitigation of public health

Directives or other requirement for project, e.g. legislative requirements

DSE directive under the CTWSSP

Requirement under the Statement of Obligations Item 20.2

Expected Outcomes

New sewerage scheme

Proposed budget

$2,515,000

Basis of Cost Estimate

In-house estimate based on recent construction of the Minyip sewerage system.

Options Considered

To be considered in the concept design stage.

Options for appropriate reticulated system and treatment, location of plant and considerations for reuse opportunities.

Intangible Commercial Impacts

Improvement in public health

Environmental Considerations

Fauna and flora survey of proposed WWTP sites

Financial Impact

CTWSSP of $25,000 for concept design (07/08)). Further funding of $140,000 for functional design and possibly $705,000 for implementation and assume $140,000 from customers

Part of the cost from property owner's contribution.

Balance of cost to be recouped from sewerage rates.

Implementation Plan

Concept design to be followed by detail design. Options may exist to incorporate construction with other proposed sewerage schemes in Rupanyup and Great Western.

References

- Letter by Yarriambiack Shire/CTWSSP Trim I2006/7733
- DSE letter on CTWSSP Trim I2006/4678
- Water Industry Act 1994 Statement of Obligations GWM Water Authority Item 20 J:\Cap Works\2006-07 Works\79065-04 WWMP\Correspondence

Project Name / Location ~ Service

Lake Bolac New Sewerage Scheme

Background and Problem Statement

Lake Bolac is an unsewered township of about 210 residents and has been identified as a priority to be sewered through the Country Towns Water Supply and Sewerage Program (CTWSSP), with funding through the Department of Sustainability & Environment (DSE). A compelling factor for a sewerage scheme in Lake Bolac is the concern that effluent is reaching the adjacent recreational lake with associated health risks to residents and lake users.

Risks Addressed

Risk mitigation of public health

Directives or other requirement for project, e.g. legislative requirements

DSE directive under the CTWSSP

Requirement under the Statement of Obligations Item 20.2

Expected Outcomes

New sewerage scheme based on Septic Tank Effluent Pumping (STEP) wastewater collection system and treatment by a subsurface flow root zone wetlands system. Reduced environmental impacts and odour problems and increase tourist potential.

Proposed budget

$2,059,500

Basis of Cost Estimate

In-house estimate in PJR based on GHD Final Report 2005

Options Considered

Options for conveyance:

1. Upgrade for Large Lots and MCS Reticulation for Small Lots
2. Upgrade for Large Lots and LPS Reticulation for Small Lots
3. MCS Reticulation for All Lots
4. CED reticulation for All Lots
5. STEP reticulation for All Lots

Options for the treatment:

1. Facultative lagoon systems
2. Subsurface flow wetlands system

Location of plant to consider reuse location.

Proposed option based on STEP and treatment by a subsurface flow wetlands system

Intangible Commercial Impacts

Improvement in public health

Environmental Considerations

Fauna and flora survey of proposed WWTP sites

Financial Impact

CTWSSP $40 000 for detail design (07/08), $450,000 for construction.

Property owner's contribution of $800/property or $116,800 for 146 properties.

Authority's contribution is $ 1,455,000.

Balance of cost to be recouped from sewerage rates

Implementation Plan

- Consideration of community requests with consideration to clear project cost boundaries
- Finalisation of which allotments are included in the collection area.
- Determine which allotments have to upgrade their wastewater treatment
- Selection of WWTP site and associated geo-technical investigations.
- Detailed costing of recommended option
- Discussion of impacts with community and Council
- Discussions with GWMWater Operations Group to determine operational and management issues i.e. maintenance, replacement of components, desludging and inspection of septics
- Declaration of Sewerage District

Note: Reuse to be a separate project

References

- PJR Trim M2006/6116
- GHD Final Report Lake Bolac Innovative Wastewater Solutions July 2005 Trim I2006/8490
- CTWSSP Letter Trim I2006/2923
- Letter Lake Bolac Development Association Inc. Trim I2007/4416
- Water Industry Act 1994 Statement of Obligations GWM Water Authority Item 20 J:\Cap Works\2006-07 Works\79065-04 WWMP\Correspondence

Project Name / Location ~ Service

SCADA

Background and Problem Statement

The implementation of a SCADA system is now considered to be critical to the achievement of further business improvements, many of which will impinge on the ongoing viability of the organisation.

The overall objectives of the "Outline SCADA strategy" were to:

1. Determine whether a SCADA system would be cost-beneficial for Grampians Water; and

2. Having demonstrated that a SCADA system would be cost-beneficial for the organisation, define the best way in which it could be implemented.

A large number of issues will influence the development and ongoing operation of a SCADA system which include:

- Improved customer service is a major priority as there is a critical lack of data and modern support tools to enable the required improvements to be achieved;
- The wide geographical area requires extensive travelling for collecting data, inspecting locations and for operations and maintenance activities;
- The lack of operational and maintenance data limits the organisation's ability to improve efficiency and effectiveness;
- Planning and design processes are inhibited by the lack of accurate data on the performance of the existing hydraulic systems;
- The low population density, declines in many townships and minimal growth overall will challenge the viability of many new investments;
- The lack of accurate information on system operation increases organisational risks and possible threats of litigation due to events such as failures of water supply quality and sewage spills in sensitive areas;
- The need to provide services to 74 separate townships, with essentially separate systems, makes it difficult to achieve economies of scale.

The first stage of this project is currently under construction and includes pump station sites as part of the initial construction of the WMPP.

Risks Addressed

Planning approval potentially required for some telemetry sites.

This project aims to address both the level of financial performance of the operation of core water and wastewater assets and to allow improvements and maintenance of service standards within acceptable levels (both regulatory and those set in the customer charter)

Risk of not managing water and wastewater system in an efficient manner.

Directives or other requirement for project, e.g. legislative requirements

Expected Outcomes

SCADA has been identified as a major stepping-stone in improving the Authority's quality and consistency of water and wastewater services.

SCADA will reduce distances travelled and delays in restoring services and allow for proper management of equipment through monitoring and identification of problems before they become urgent. History of other Water Authorities indicates that effective SCADA will lead to significant improvements in service delivery standards and customer response.

Proposed budget

$3,150,000

Basis of Cost Estimate

Estimate based on previous SCADA work implemented and GWMWater SCADA Strategy.

Options Considered

Options to be considered at the time of detailed design and implementation.

Intangible Commercial Impacts

Improved operating and customer service capability;

Opportunities to standardise operating procedures;

Better utilisation of operations resources and possible reduction in numbers;

Reduced costs and risks through standardisation of technology;

Reduced incident risks through the reduction in the number and severity of operational incidents and improved capability to respond once an incident has occurred;

More knowledgeable and capable staff, learning through the power of the technology;

Better asset management through ongoing monitoring of asset performance;

Improved quality of data for decision making and justifying operation and maintenance and asset management approaches internally and to external stakeholders;

Improved capital and maintenance planning through more integrated and useable information;

Improved ability to integrate with other company information systems such as financial, customer, maintenance management, planning etc;

Better company image through being able to demonstrate competitiveness and competence.

Environmental Considerations

Potential to minimise the incidence and impact of system failures that can have adverse effects on the environment.

Financial Impact

To be determined but expected that SCADA will have a positive impact on operational costs through improvements in efficiency of operation and preventative maintenance on remote sites.

Identification and consequent reduction of water losses, reduced risks, increased productivity of field resources and better capital investment decisions

Implementation Plan

Continuation of SCADA implementation for the next priority levels for the core areas and WMPP progressively over the first half of the Water Plan period.

References

- GWMWater SCADA Strategy February 2006 Trim M2006/1222
- Initial Implementation SCADA Project Closeout Report August 2005 Trim M2006/1220
- SCADA Communications Review April 2006 Trim M2006/4579
- Initial SCADA Implementation Project Functional Strategy Report October 2002 Egis Consulting I2006/2115
- Report on Outline SCADA Strategy Ambidji Group June 2001 Trim I2006/2114
- Design and Construction of GWMWater's SCADA System Contract No 79066-00 January 2007

Project Name / Location ~ Service

Dam Safety Works Lake Lonsdale

Background and Problem Statement

As part of its responsibilities under the Statement of Obligations, GWMWater has commissioned dams consultant SMEC Australia to conduct risk assessments on three of the headworks reservoirs – Lakes Lonsdale, Fyans and Pine.

SMEC has completed these risk assessments and has assessed the probability of failure of the various components of the reservoirs and compared these against the guidelines recommended by ANCOLD (the Australian National Committee on Large Dams).

The risk assessments identify engineering features of the dams (embankment stability, spillway adequacy, outlet integrity etc) that do not comply with current engineering standards, hence increasing the risks associated with the dams. The assessments also recommend remedial works required to improve the integrity of the dams and reduce the exposure of GWMWater to unacceptable levels of risk. SMEC has completed these Risk Assessments and has now advised GWMWater of the required works at each storage and provided cost estimates for these works.

Using an accepted risk framework, the upgrade works recommended by SMEC have been prioritised into two categories, those requiring immediate action, i.e. in the 2008-13 Water Plan period, and those having lesser priority which can be conducted beyond the 2008-13 Water Plan period.

Risks Addressed

Dam failure and loss of water.

Directives or other requirement for project, e.g. legislative requirements

Compliance with the obligations under the Statement of Obligations

Expected Outcomes

Dam bought up to an acceptable level of safety through works identified for high priority seepage interception and embankment stabilisation works.

Proposed budget

$2,700,000 within Water Plan period.

Basis of Cost Estimate

The estimated cost for seepage interception is $1.1 million for the 400 m of treatment.

For failure to the primary spillway abutment wall further investigations need to be carried out to fully understand the problem and identify the best solution. These investigation works are estimated to cost $100,000 and the solution about $1.5 million.

Options Considered

Consultants looked at a range of options before selecting most effective option.

Intangible Commercial Impacts

Demonstration of due diligence in the management of large dams

Environmental Considerations

Works will be constructed in accordance with GWMWater's Environmental Management policy

Implementation Plan

The foundation seepage interception and stabilisation of the downstream portion of the primary spillway abutment gravity wall could be combined as they represent works of a similar nature. Additionally, other identified dam safety works could also be schedule within a similar timeframe to take advantage of contracting efficiencies.

References

- SMEC Australia Pty Ltd, *Report on Dam Safety 2007* – June 2006
- Board Report – September 2007

Project Name / Location ~ Service

Natimuk Treated Water Supply

Background and Problem Statement

Natimuk is the nearest town to Mt Arapiles, a world-renowned rock climbing location. Natimuk is currently served by a reticulated supply that is not potable and there is a risk to public health. The outcome of the community consultation conducted by GWMWater indicates that the community is in favour of a treated water supply. This project is a core part of GWMWater's regional water supply improvement plan for the water plan period.

Risks Addressed

Risk mitigation for water quality.

Directives or other requirement for project (e.g. legislative requirements)

Community seeking improvement to water quality standard.

Expected Outcomes

Treated water supply

Proposed budget

$1,524,000

Basis of Cost Estimate

Estimate from Interim Revised Water Quality Improvement Plan 2004 with 5% per year adjustment.

Options Considered

- Supply from WMPP
- Extension of supply from Horsham
- Clarification from existing supply with partial salt reduction
- Groundwater supply
- Clarification of Toolondo Reservoir Water
- Initial option proposed: Extension of supply from Horsham

Intangible Commercial Impacts

- Encourage regional growth and development

Environmental Considerations

Natimuk is a tourist destination and non-potable town water supply poses a risk to tourists and local community.

The ineffectiveness of disinfection without prior clarification is ineffective due to the turbidity shielding bacteria and disinfection by products.

Financial Impact

The actual cost to be finalised depending on final solution, capital costs to be recouped through tariff increases.

Implementation Plan

Concept design followed by seeking community agreement before detail design and physical implementation

References

- Natimuk Water Quality Improvement Plan August 2000 Trim I2000/4641
- Internal Document Trim I2003/2872 and
- Letter Natimuk Community Reference Group Trim I2003/2397
- Interim Revised Water Quality Improvement Plan 2004

Project Name / Location ~ Service

Taylors Lake Embankment Works

Background and Problem Statement

Through its obligations for dam safety assessments, GWMWater has undertaken an extensive review of all headworks dams. In particular, risk assessments have been carried out on the Taylors Lake storage resulting in a number of strategically prioritised safety works. Taylors Lake is a key storage for GWMWater's bulk supply system operations, both in the current arrangements and the future changes associated with the WMPP.

It has been determined that parts of the embankment do not comply with current day standards of dam safety and the works required to address this problem have been identified. This high priority is project is the second phase of the capital works identified for the storage, for which the initial works are programmed within the current 2007/08 capital program.

Risks Addressed

Dam failure, loss of water

Directives or other requirement for project, e.g. legislative requirements

Compliance with the obligations under the Statement of Obligations

Expected Outcomes

Dam bought up to an acceptable level of safety

Proposed budget

$1,700,000 within Water Plan period.

Basis of Cost Estimate

Estimate prepared by the consultant for similar type of works.

Options Considered

Consultants looked at a range of options such as storage operating levels etc. prior to selecting the most cost effective and applicable option.

Intangible Commercial Impacts

Demonstration of due diligence in the management of large dams

Environmental Considerations

Works will be constructed in accordance with GWMWater's Environmental Management policy.

Implementation Plan

Could be incorporated with similar works identified within the water plan period. This will be dependant on the full scope of works and ability to appropriately resource the construction program required.

References

- Dams Safety Review for GWMWater – SMEC Australia Pty Ltd

Project Name / Location ~ Service

St Arnaud WWTP Upgrade

Background and Problem Statement

The St Arnaud WWTP is a 40-year-old trickling filter plant with maturation lagoons and winter storage. Major components of the primary and secondary treatment facility of the plant are in a poor condition and regularly failing EPA target guidelines. The following major issues are among the faults associated with the plant treatment facility:

- Labour intensive operation required enabling treatment plant functions to meet treatment outputs to a reasonable level.
- Insufficient capacity of the inlet channel to deal with peak inflow occurances.
- Odours from the plant are difficult to contain within the site.
- Most primary treatment equipment is irreparable.
- Severe erosion on the inner batters of the maturation lagoons

GWMWater has an established third party reuse facility for this site that has been in operation since 2006 and recently has recently added a temporary system with the Northern Grampians Shire Council (NGSC). Significant opportunities exist for GWMWater to improve the treatment facility to provide an improved sustainable reuse system through regional development opportunities.

Risks Addressed

Risk mitigation of EPA license requirements and plant failure

Directives or other requirement for project (e.g. legislative requirements)

EPA have indicated spills associated with the trickling filter are breaching licience conditions, as does the discharge limits which are exceeding E. Coli and pH. EPA consider this facility as a high priority for improvement works.

Expected Outcomes

A new treatment plant/or upgraded plant that complies with EPA licence conditions.

Proposed budget

$1,925,000

Basis of Cost Estimate

Based on in-house PJR dated 24 January 2003. Figure adjusted based on 5% increase per year.

Options Considered

Capital upgrade of existing plant infrastructure

Full replacement of treatment facilities

Final preferred option to be determined via business case.

Intangible Commercial Impacts

EPA compliance

Impact on third party reuse scheme

Regional development

Environmental Considerations

Current non-compliance in effluent discharge

Financial Impact

Consideration of O&M cost

Business case options accociated with treatment options.

Implementation Plan

Opportunities may enable combining project with the Stawell WWTP upgrade, but will depend on preferred option.

References

- Project Justification Report MW/CS/0000/01 24 January 2003
- Report on Alum Sludge Management Strategy – GHD March 2002 Trim I2004/5328
- Letters by EPA Trim I2007/726
- Revised Wastewater Management Plan 2004 Trim I2004/3275
- Water Industry Act 1994 Statement of Obligations GWM Water Authority Item 15.1(f)
- EPA License O:\Wastewater Management\WWTP Manual – St Arnaud

Project Name / Location ~ Service

Jeparit Treated Water Supply

Background and Problem Statement

Jeparit is in the first leg of the WMPP supply system and it is expected that the works will be completed by the end of 2007. Community consultation carried out indicated that the community would like to have treated water supply. Unless a centralized treatment plant is in place, an individual treatment system may be required. The actual implementation will depend on the outcome of the decision on the centralized treatment plant.

Risks Addressed

Risk mitigation for water quality.

Directives or other requirement for project, e.g. legislative requirements

Community seeking improvement to water quality standard

Expected Outcomes

Treated water supply

Proposed budget

$2,278,000

Basis of Cost Estimate

Estimate based on recently completed project of similar size.

Options Considered

Finalised options assessment to be undertaken as part of business case study.

Intangible Commercial Impacts

Encourage regional growth and development

Financial Impact

The actual cost to be finalised depending on final solution, capital costs to be recouped through tariff increases.

Implementation Plan

Concept design followed by seeking community agreement before detail design and physical implementation

References

DSE letter on CTWSSP Trim I2006/4678

DSE letter on CTWSSP Trim I2006/4910

APPENDIX 10. 2008/09 MISCELLANEOUS AND OTHER CHARGES

DETAILS	AMOUNT $	CHARGE UNITS
Fire Service (per service)	$315	
Standpipe Charge (per service)	$315	
Standpipe Volumetric Charge (per kl)	$1.50	
Developer Charges – Urban (per lot)		
Water	As per Vic Water Policy	
Wastewater	As per Vic Water Policy	
Developer Charges – Rural	Case by Case Determination	
Charge Unit:	$8.90	1
Connection Charges		
Water - Tapping/Connection Charge (tapping size 20mm)#	$258.10	29
Relocation of Water Connection	$258.10	29
Wastewater Connection Charges		
Residential	$89.00	10
Commercial & Small Industrial	$133.50	15
Large Industrial	$267.00	30
Special Meter Reading		
Urban	$26.70	3
Pipeline/Rural/Outside Urban District	$53.40	6
Fire Service Inspection Fee	$44.50	5
Fire Service Sealing Fee	$44.50	5
Resealing Service Fee	$178.00	20
Copy of Block Plan	$8.90	1
Meter Testing Fee (20 mm & 25mm)#	$62.30	7
Backflow Prevention Assessment Application	$124.60	14
Backflow Prevention Renewal	$53.40	6
Disconnection/Reconnection of Water Supply	$62.30	7
# Higher Charge for Larger Tappings		

DETAILS	AMOUNT $	CHARGE UNITS
Trade Waste Application Fees		
Expected Discharge up to 20 Kl/day	$89.00	10
Expected Discharge >20 Kl/day but<100 Kl/day	$222.50	25
Expected Discharge>100 Kl/day but<500 Kl/day	$445.00	50
More than 500 Kl/day or Special Trade Wastes	On Application	
Major Trade Waste		
Stawell	By Agreement	
Ararat	By Agreement	
St Arnaud	By Agreement	
Horsham	By Agreement	
Minor Trade Waste		
Service Charge – Category 1	$110.00	
Service Charge – Category 2	$110.00	
Information Statements (S158)		
Application Fee	$44.50	5
Application Fee - Priority	$89.00	10
Outside District Damfills		
Supplies – Up to 3 ML	$2,091.50	235
Supplies – 3 ML to 5ML	$3,515.50	395
Supplies – 5ML to 7 ML	$5,829.50	655
Headworks Contribution Fee		
Per Megalitre	$1,000.00	
Transfer Water Entitlement – (Wimmera Irrigation/ River Diversion)		
Temporary Transfer / per Application	$89.00	10
Permanent Transfer / Transaction	$267.00	30
Preliminary Investigation Fee	$44.50	5
Diversions Take and Use Licences (Groundwater and Surface water)		
Application for a Take and Use Licence (s51) other than domestic and stock	$845.50	95
Application for a renewal of Take and Use Licence (s53) other than annual licence (or for renewal of licences of more than one years duration)	$284.80	32

DETAILS	AMOUNT $	CHARGE UNITS
Application for annual diversion licence for domestic and stock use	$71.20	8
Application for change of ownership	$71.20	8
Bore Construction Licence and Bore Alteration Licence Fees		
Application for a licence to construct or alter a bore (s67)	$356.00	40
Application for a licence to construct or alter a bore –Data Collection Only	$213.60	24
Application for a licence to construct or alter a second or more bore(s) at the same site – Data Collection Only	$71.20	8
Application for transfer of a licence to construct or alter a Bore – on sale of property (s74)	$71.20	8
Application for renewal (extension) of a Bore Construction Licence (s72)	$71.20	8
Disposal Fee		
Application for approval to dispose of matter underground By means of a bore (s76)	$356.00	40
Transfer of Entitlement (562) – Groundwater and Surface water		
Temporary Transfer / per Application	$160.20	18
Permanent Transfer to existing licence/ per Transaction	$267.00	30
Permanent Transfer to new licence / per Transaction	$845.50	95
Construct Dam or Other Works On A Waterway		
Licence Fees	$462.80	52
Connection Charges		
Pipeline Areas		
New Connections	$450.00	

DETAILS	AMOUNT $	CHARGE UNITS
Application Fee for Amalgamation Subdivision or Reclassification of lands		
Waterworks District/Irrigation	$231.40	26
Non-rateable lands	$44.50	5
Aggregation of Entitlements		
Waterworks District	$62.30	7
Construction of Private Works		
Security Deposit on :		
(1) Works < $10,000	$1,000.00	
(2) Works > $10,000	10% of JOB	
Supervision Fee	$267.00	30
Use of Private Works		
(1) Issue Fee	$53.40	6
(2) Re-issue Fee	$53.40	6

	Amount ($) Excluding GST	Amount ($) Including GST
Document Preparation		
Licences, Agreements etc (where no other fee is payable and Not related to supply of water)	$41.00	$45.10
Tender and Contract Documentation		
Contracts > $50,000, Documents > 40 pages (per copy)	$41.00	$45.10
Photocopying Charge		
A4 per page 297 x 210mm	$0.51	$0.56
A3 per page 420 x 297mm	$0.81	$0.89
A2 per page 594 x 420mm	$5.42	$5.96
A1 per page 841 x 594mm	$6.55	$7.20
A0 per page 1189 x 841mm	$9.32	$10.25
B1 per page 1000 x 707mm	$7.68	$8.44
Plan, Poster and GIS Printing		
A4 per page 297 x 210mm - colour	$15.36	$16.89
A3 per page 420 x 297mm - colour	$15.36	$16.89
A2 per page 594 x 420mm - colour	$25.60	$28.16
A1 per page 841 x 594mm - colour	$35.85	$39.43
A0 per page 1189 x 841mm - colour	$40.97	$45.06
Non standard plans & GIS designs	Actual Cost	Plus 10%

Plant Hire						
	With Operator $/hour		*Dozer/Ditcher with 2 Operators $/hour*		*Dozer/Ditcher with Remote Control $/hour*	
	Excluding GST	*Including GST*	*Excluding GST*	*Including GST*	*Excluding GST*	*Including GST*
Komatsu 65 (tracked dozer) 104 kW	130	**143**	175	**192.50**	150	**165**
Log Skidder (wheeled dozer) 96 kW	115	**126.50**	160	**176**	135	**148.50**
Backhoe (4x4 w/extendable dipper arm)	80	**88**	-		-	
Excavator (12-15 tonne)	90	**99**	-		-	
Self Loading Crane Truck	80	**88**	-		-	
Bobcat Front end loader	65	**71.50**	-		-	
Mini Excavator - 1.2 to 5.0 tonne	90	**99**	-		-	

Conditions relating to the external hire of plant are to be in accordance with Management Procedure MP 19

	Ditcher with Operator $	
	Excluding GST	*Including GST*
Ditching Equipment	60	**66**
QBM, Farleys Landholders *(Parex only)*	Not for hire Free of Charge	

Low Loader Hire excluding GST- $ 2 per km. *(This rate includes driver hourly overhead) - Minimum charge $60.*
Vehicle Hire - 50c per km *(Vehicles to be driven by GWMWATER staff only)*

Low Loader Hire including GST $ 2.20 per km. *(This rate includes driver hourly overhead) - Minimum charge $66.*
Vehicle Hire – 55c per km *(Vehicles to be driven by GWMWATER staff only)*

SMALL ITEMS OF PLANT

Prices daily unless otherwise stated		
	Excluding GST	*Including GST*
Air compressor including fittings	$ 80.00	**88.00**
Generators, pumps	$ 50.00	**55.00**
Compaction equipment	$ 50.00	**55.00**
Spray bike (including 2 operators)	$120.00 per hour	**$132.00 per hour**
Portable Lincoln Welder	$40.00 per day	**$44.00 per day**
Trailers	$25.00	**$27.50**
Barricades & signs	$10.00	**$11.006**
Lifting equipment, eg. block & tackle	$10.00	**$11.006**
Trailabel hoe – with operator	$70.00 per hr	**$77.00 per hr**
Weedboat	$50.00	**$55.00**