

OVERARCHING DOCUMENT FOR SUSTAINABLE WATER USE PLANS FOR SOUTH- WEST VICTORIA

Prepared for:

**CORANGAMITE SHIRE COUNCIL
GLENELG SHIRE COUNCIL
MOYNE SHIRE COUNCIL
SOUTHERN GRAMPIANS SHIRE COUNCIL
WARRNAMBOOL CITY COUNCIL**

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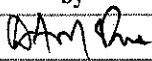
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Revision History

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1 Introduction

Five councils in South West Victoria have worked together to produce five separate sustainable water use plans (SWUPs). The councils are Corangamite Shire, Glenelg Shire, Moyne Shire, Southern Grampians Shire and Warrnambool City. Wannon Water and the Glenelg Hopkins and Corangamite Catchment Management Authorities (CMAs) have also participated in the development of the plans.

Each SWUP examines current water use by council, sets targets for reduction in water use and identifies actions. Although the plans are council specific, the five councils jointly developed the plans to build a relationship where knowledge and resources are pooled and regional solutions examined to determine best possible outcomes. Council representatives formed a steering committee together with Wannon Water for the development of the plans, and this relationship is planned to continue to maintain the collective knowledge built up during the plan development and implementation.

This document is the overarching framework that supports and provides coordination for the plans. The purpose of this document is to:

- put the plans and their actions into a regional environmental context
- set direction for continuing the partnership between the councils, the CMAs and Wannon Water in relation to water conservation initiatives
- allow for a consistent approach to monitoring and reporting on meeting targets set out in the SWUPs
- form a basis for determining priorities and accessing the resources to implement the plans.

The production of sustainable water use plans which focus on water use by local government was initiated through the Victorian Government's 2004 White Paper 'Securing Our Water Future Together'. The actions arising from the South West Victorian council plans and the anticipated water savings will be incorporated into Wannon Regional Water Authority's supply-demand strategy, due for publication in February 2007, and the south west sustainable water strategy scheduled for development by the Department of Sustainability and Environment (DSE) in 2008.

2 Environmental context

Across Australia the use of water is being re-examined at an individual level and within the wider community, government and independent organisations. Reliability of water supply, changes in water quality, improved understanding of environmental requirements and a need to examine the impacts of population growth and climate change have precipitated this review. The issues facing south-west Victoria that make the sustainable use of water important are:

- climate change and the anticipated effect this will have on water use and volume of water harvested
- river and catchment health and water quality
- changes in population and population distribution
- changes in industrial, agricultural and business requirements

The first two issues are important in an environmental context and are discussed further below.

Climate change

Climate change is anticipated to have substantial impacts on water use and the volumes of water available. Left unchecked, water use may rise due to higher temperatures and lower rainfall, but the major impact comes from the decline in water yield.

Analysis of historical stream flows in rivers across Victoria show that average flows for the last 10 years are significantly lower than long term averages. This equates to less water available for extraction from rivers, less water in reservoirs and less opportunity for ground water recharge (DSE, 2006). In addition to this, CSIRO projections (Jones & Durack, 2005) of the effect of climate change on future water yield, indicate that water availability will continue to decline into the future. For example, detailed analysis of the Portland Coast area projects a decline in surface run off of 29 per cent to 2055 based on 1990 levels and a medium effect climate change scenario. Other catchments and rivers in the Wannon Water Authority region are expected to follow similar patterns.

To further understand and counter the effect of climate change and other effects on water supply, the Victorian Government has requested that all regional urban water supply agencies prepare water supply-demand strategies through to 2055. These will take into account CSIRO climate change projections. This is an outcome of the 2004 Victorian White Paper on water.

Within South West Victoria, Wannon Water has been active in seeking to expose local communities and councils to the climate change projections, and has rolled out a suite of possible demand management options as well as priorities for accessing new supplies of water. No town in the region can regard itself as insulated from a future of increased demand associated with an increase in average temperature or can regard itself as protected from declining surface water resources and declining aquifer resources due to climate change. For the region to continue to grow and flourish water use clearly needs to move to new levels of efficiency.

Climate change management and adaptation will be a major challenge for most of southern Australia. All governments will have important roles in leading by example, to help communities to adjust to the changes ahead, and do so in a sustainable and considered way.

River and catchment health

The SWUPs are focused on water use within council assets. It is also salient to consider the broader context of water use in the region, recognising the interdependencies between river condition and the use of water for agricultural, industrial, commercial, residential, and recreational purposes. Healthy rivers and catchments are essential to providing water to all these users.

CMAs are the legislated regional caretakers of river health and managers of environmental water reserves. An environmental water reserve is the allocation of water to provide the ecological values of waterways. The Corangamite and Glenelg Hopkins CMAs have supported and participated in the development of the SWUPs, ensuring that the connection is made between water use in urban areas and broader river health outcomes.

Types of land management, both urban and rural, will directly influence water quality and water yield from catchments, and have flow on effects for water availability and costs for water treatment. Additionally changes to natural flow regimes and water quality may have significant impacts on river health. Rivers and waterways in the Corangamite and Glenelg Hopkins CMA regions are in various states of ecological health. A number of the rivers in the region are flow stressed with urban extractions during summer often a contributing factor, such as for the Gellibrand River (Corangamite CMA, 2004).

The Victorian Government has recognised the Gellibrand River as an important river because of its diverse range of uses and important environmental qualities. It is environmentally significant because of: its relatively unspoilt headwaters, its populations of nationally listed Australian Grayling and River Blackfish, a healthy platypus population and an estuarine wetland of national significance. A study for the Draft Corangamite Regional River Health Strategy, investigating the flow requirements of the Gellibrand River ecosystem, found that the Gellibrand River is generally in good health, however urban and rural extractions during summer are causing river stress.

According to the Glenelg Hopkins Regional River Health Strategy, the Glenelg River is regarded as a 'stressed river' due to the diversion of water into the Wimmera–Mallee region, through a system including the Rocklands Reservoir. This reservoir also presents a barrier to the movement of migratory fish species and the localised movement of non-migratory species. River regulation has also resulted in a reduction in channel flushing causing a build up of sediment. There are many significant flora and fauna species that are threatened due to flow related changes in the Glenelg River. Current environmental flows are believed to be a minimum to sustain the river during summer and there is a need to increase the spring and autumn flows.

These are just a few examples of rivers within the region that are subject to pressures from water use within our population centres. Water use within council assets and operations is only one contributor, nevertheless reductions in water use will create significant opportunities to directly and indirectly reduce the impacts on these vitally important rivers and waterways.

3 Council water use, targets and actions

Water consumption

Water consumption for each of the five councils was examined. There are a variety of water sources used by councils and that there are a large range of facilities for which council pays the water bills either directly or indirectly. Each of the councils use water for different purposes and from different sources. Details for each council are shown in the individual plans.

Table 1 summarises potable water use for each of the five councils in the baseline year for which water savings will be measured. The annual use for Southern Grampians Shire Council also includes raw water from the Cruckoor Reservoir and from the council owned Old Reservoir. None of the figures include raw bore water or water extracted from rivers for activities such as dust suppression. These sources and uses are largely unmetered across the region. Table 1 also shows the water use reduction targets and timeframes that each council has set.

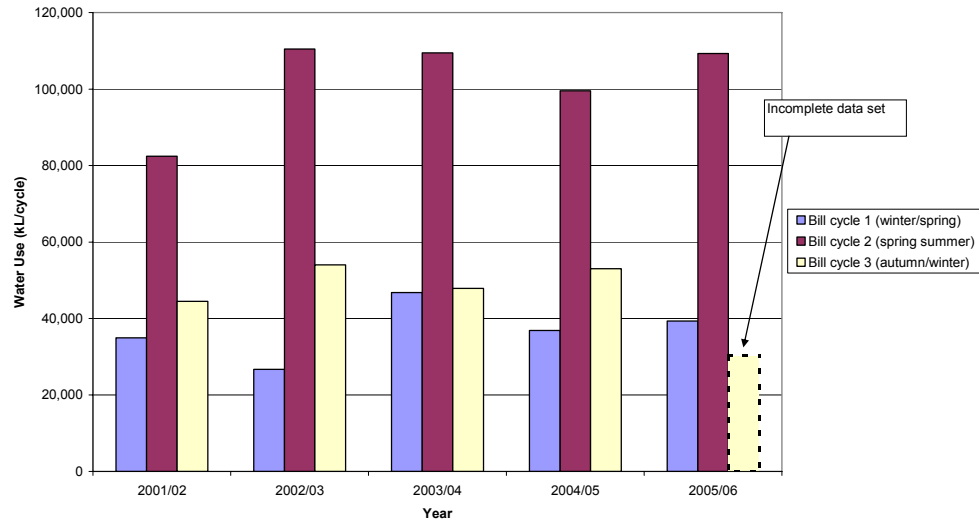
Table 1 Current water use by council and water use reduction targets

Council	Baseline year	Volume of mains water used in baseline year (kL/a)	Target water reduction in 5 years to 2012		Target water reduction in 10 years to 2017	
			(%)	(kL/a)	(%)	(kL/a)
Corangamite Shire Council	2003–04	90,000	12	10,800	20	18,000
Glenelg Shire Council	2005	250,000	4	10,000	7	17,500
Moyne Shire Council	2003–04	52,000	10	5,200	25–30	13,000
Southern Grampians Shire Council	2005–06	62,000*	10	6,200	20	12,400
Warrnambool City Council**	2003–04	160,000	20	32,000	-	-

* includes water from the Old and Cruckoor Reservoirs.

** Warrnambool City Council has not set a 10 year target at this stage.

Figure 1 shows water consumption over billing cycles for Warrnambool City Council. This figure is included to show the distinct pattern of high water use in the summer months with only half these volumes being used during the other two billing cycles i.e. the colder months of the year. Although this detailed breakdown of data was not available for other councils, it is highly likely that the same pattern will apply. Targeting facilities where summer water use is high will show rapid progress towards reducing water use and in contributing to environmental benefits.



**Figure 1:
WARRNAMBOOL CITY COUNCIL SEASONAL WATER USE**

Objectives

A set of objectives have been adopted by all five councils to support water saving strategies. The objectives are:

- educate council employees and the community in water saving methods
- focus on reducing water consumption in the top water using assets
- implement best practice and ongoing programs for water use reduction demonstrating council's commitment to water use reduction
- improve monitoring of water use by council assets
- investigate alternative sources of water to potable water.

Actions

Actions were developed by the councils within these objectives which will progressively reduce water consumption. One of the most important actions is for the five councils to continue the working relationship through the formation of the South West Municipal Water Committee. The committee will be a support network for council staff to share information and resources, apply for grants together and work on shared initiatives. This committee is discussed in Section 4.

Many of the actions have a focus on education and investigation. Education of council staff and the community on both the importance of saving water and how to achieve changes is the foundation of sustainable water use. Council staff will also educate themselves in best practice water use and investigate technologies and opportunities relevant to each municipality for reducing consumption and using alternative water sources for applications such as irrigation.

Other actions focus on auditing facilities and monitoring the use of water. Audits of assets will identify areas where water efficiency or effectiveness could be improved as well as identify where a particular source of water can be replaced with a more sustainable source.

Monitoring and reviewing water use annually and seasonally will reveal where water savings have been made and therefore which initiatives have been most successful. It is a requirement of DSE that councils report on their progress towards meeting targets and implementing actions in their annual reports. The scope of the report is up to the individual council, however the monitoring actions will assist in the collection and collation of this information.

4 South West Municipal Water Committee

The councils who worked together to produce their SWUPs will maintain this working relationship through the formation of the South West Municipal Water Committee (SWMWC). The committee will consist of representatives from the five councils and Wannon Water.

Committee objectives

The objective of the committee will be to maintain impetus gained in the development of the plans. Tasks and activities of the committee will typically consist of:

- sharing knowledge on outcomes of council water saving initiatives
- defining best practice for facilities that use water for example irrigation practices for sports grounds or minimising evaporation from swimming pools
- sharing knowledge of funding sources for implementation of actions
- joint analysis, with Wannon Water, of water consumption patterns and trends
- joint promotion of water efficiency achievements
- liaising regularly with CMA's and with Southern Rural Water officers for joint projects
- sharing of knowledge of water efficiency innovations (within and outside the region)
- acting as a source of advice to Wannon Water on improved water use opportunities and opportunities implementing water management projects.

The committee will also be able to:

- relay information from Wannon Water to Council management on major trends, plans and outcomes of work
- contribute to setting regional water priorities

- exploit any preference by funding agencies for joint or regional submissions
- collaborate on planning regulatory reform to achieve new mandated thresholds of urban water efficiency.

Committee action plan

The steering committee for the production of the SWUPs proposed that SWMWC meetings be quarterly and be chaired on a rotating annual basis by a municipal representative. Representatives from the councils shall initially be from the following departments:

- Warrnambool City Council—Infrastructure Services
- Corangamite Shire Council—Environment Department
- Moyne Shire Council—Environment Department
- Glenelg Shire Council—Engineering Services
- Southern Grampians Shire Council—Engineering Services.

A broad outline of a potential program for the SWMWC for 2007 is:

- Meeting 1, quarter 1 2007
 - nominate chair
 - agree on priority projects for joint actions
 - establish communication protocol
 - discuss current actions and resources available to share
 - confirm program for remainder of the year
- Meeting 2, quarter 2 2007
 - progress work on first joint action
 - determine funding opportunities
 - discuss approach to annual council reporting
 - review progress
- Meeting 3, quarter 3 2007
 - compare data collected in 2007. What savings have been made?
 - allocate actions/ projects to councils
- Meeting 4, quarter 4 2007
 - evaluate and review progress of SWUP implementation and outcomes of the SWMWC.

Opportunities for collaboration

As many of the actions that each council developed are the same or similar, councils can collaborate on these actions to share work load, ideas and resources. Many of the common actions are listed in Table 2. Priorities for each action can be set in the first SWMWC meeting using each council's priorities as a guide.

5 Conclusion

The environmental and community benefits of reducing water use in South West Victoria are significant and the actions arising from the sustainable water use plans are an excellent way of achieving this. The actions also create many opportunities for council to collaborate on projects in the short term and long term. No doubt more actions will be developed as the SWMWC becomes established and starts to contribute to planning for sustainable water use across all sectors of the community.

The next step towards achieving sustainable water use is for councils to implement actions as set out in their individual plans and to collaborate with other councils to progress joint actions.

6 References

Corangamite Catchment Management Authority, 2004 *Draft Corangamite Regional River Health Strategy*

Department of Sustainability and Environment (DSE), October 2006, *Sustainable Water Strategy, Central Region - Action to 2055*. Victorian Government.

Glenelg Hopkins Catchment Management Authority, 2004, *Glenelg Hopkins Regional River Health Strategy*

Jones, R.N. and Durack, P.J. 2005. *Estimating the Impacts of Climate Change on Victoria's Runoff using a Hydrological Sensitivity Model*. Division of Marine and Atmospheric Research CSIRO, Melbourne

Table 2 Joint actions for potential council collaboration

Actions/recommendations derived from SWUPs	Other potential collaborators
IMPROVE MONITORING OF WATER USE BY COUNCIL ASSETS	
1. Continue partnership with other councils and form the SWMWC	Wannon Water, CMAs
2. Investigate the use of a common data collection system to track water consumption	Wannon Water
3. Devise standard templates for reporting on key performance indicators. DSE requires that council reports water savings and initiatives in council's annual report	Wannon Water
EDUCATE COUNCIL EMPLOYEES AND THE COMMUNITY IN WATER SAVING METHODS	
4. Combine water saving initiatives with energy saving initiatives	
5. Review water monitoring and use of water from bores	Southern Rural Water
6. Do a presentation to Council staff on the SWUP. This is an integral part of implementing a water saving plan	Wannon Water
7. Launch a water saving education campaign for swimming pools and caravan parks	Wannon Water
8. Establish water smart urban design guidelines	DSE
REDUCE WATER CONSUMPTION IN THE TOP WATER USING ASSETS	
9. Perform a water audit on swimming pools, caravan parks and other council facilities	
10. Perform an audit on council assets to detect leaks	Wannon Water
INVESTIGATE ALTERNATIVE WATER SOURCES FOR PARTICULAR ASSETS	
11. Identify availability of and opportunities for use of recycled water	Wannon Water
12. Investigate alternative sustainable water sources for road maintenance	VicRoads, Southern Rural Water
13. Investigate roofing saleyards, council depots or similar facilities and collecting rainwater for toilet flushing and irrigation	
IMPLEMENT BEST PRACTICE AND ONGOING PROGRAMS FOR WATER USE REDUCTION AND DEMONSTRATE COUNCIL'S COMMITMENT TO WATER USE REDUCTION	
14. Establish best practice for outdoor irrigation	

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