SUSTAINABLE WATER USE PLAN

Southern Grampians Shire Council

Prepared for:

SOUTHERN GRAMPIANS SHIRE COUNCIL
1 Market Place Hamilton Victoria 3260

Prepared by:

Kellogg Brown & Root Pty Ltd
ABN 91 007 660 317
Level 3 441 St Kilda Road Melbourne Victoria 3004
Telephone (03) 9828 5333, Facsimile (03) 9820 0136

24 November 2006

MEG621-G-PLN-001 Rev. C

Limitations Statement

The sole purpose of this report and the associated services performed by Kellogg Brown & Root Pty Ltd (KBR) is to produce a sustainable water use plan for Southern Grampians Shire Council in accordance with the scope of services set out in the contract between KBR and Wannon Water ('the Client'). That scope of services was defined by the requests of the Client, by the time and budgetary constraints imposed by the Client.

KBR derived the data in this report primarily from Wannon Water, examination of records in the public domain and interviews with individuals. The passage of time, manifestation of latent conditions or impacts of future events may require further exploration at the site and subsequent data analysis, and re-evaluation of the findings, observations and conclusions expressed in this report.

In preparing this report, KBR has relied upon and presumed accurate certain information (or absence thereof) relative to water use provided by government officials and authorities, the Client and others identified herein. Except as otherwise stated in the report, KBR has not attempted to verify the accuracy or completeness of any such information.

No warranty or guarantee, whether express or implied, is made with respect to the data reported or to the findings, observations and conclusions expressed in this report. Further, such data, findings, observations and conclusions are based solely upon information supplied by the Client and other Government agencies in existence at the time of the investigation.

This report has been prepared on behalf of and for the exclusive use of the Client, and is subject to and issued in connection with the provisions of the agreement between KBR and the Client. KBR accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this report by any third party.

Revision History

Revision	Date	Comment	Signatures		
			Originated by	Checked by	Authorised by
A	09/10/06	Draft issue	C.Vero	D.McRae	T.Nguyen
B	24/10/06	Draft issue after client comments	C. Vero	D.McRae	D.McRae
C	24/11/06	Final draft issue			

CONTENTS

Section		Page
SUMMARY		v
1	**INTRODUCTION**	
2	**CONTEXT FOR SUSTAINABLE WATER USE PLANNING**	
2.1	Objectives of the plan	2-1
2.2	Overview of the region	2-1
2.3	Policy, legislation and strategies	2-4
2.4	Programs, plans and initiatives	2-6
2.5	Funding opportunities	2-7
2.6	Stakeholders in plan development	2-8
3	**CURRENT AND PROJECTED WATER CONSUMPTION**	
3.1	Historical water consumption	3-1
3.2	Identification of major water users	3-2
3.3	Projected water consumption	3-5
3.4	Water sources and quality	3-5
4	**OBJECTIVES AND TARGETS FOR WATER CONSERVATION**	
4.1	Water conservation objectives	4-1
4.2	Water reduction targets	4-1
5	**ACTIONS, PLANNING AND IMPLEMENTATION**	
5.1	Action development	5-1
5.2	Reporting and review mechanism	5-2
6	**CONCLUSION**	
7	**BIBLIOGRAPHY**	
APPENDICES		
A	Policy information	
B	Funding opportunities	
C	Water use list	

Glossary

Black water	Domestic wastewater from the toilet. Often kitchen wastewater is included in this definition
CMA	Catchment management authority
Grey water	Domestic wastewater from all connections except the toilet
kL	Kilolitre (one thousand litres of water)
ML	Megalitre (one million litres of water)
ML/a	Megalitres per annum
Potable water	Water of drinking water standard. Generally supplied though the standard water supply network from Wannon Water in south west Victoria
RCS	Regional Catchment Strategy
SEPP	State Environment Protection Policy
SWUP	Sustainable Water Use Plan
SWMP	Stormwater Management Plan
SWMWC	South West Municipal Water Committee
Wannon Water	Wannon Region Water Authority

Summary

BACKGROUND

This sustainable water use plan, developed by Kellogg Brown & Root Pty Ltd for Southern Grampians Shire Council, identifies current water use by the council and ways for it to progressively reduce this water use in the future. By reducing its water use, the council can alleviate stress on regional water sources and show leadership to the community in the important area of water conservation.

The objectives of the plan are to establish the volume of water used by council each year, set targets for its reduction and develop actions to help achieve the targets. The plan also puts sustainable water use in a framework of local, regional and national policy and describes the funding streams available to council.

Southern Grampians Shire Council has worked with four other councils in the south west region of Victoria to develop this plan. Wannon Water and the Department of Sustainability and Environment have also helped with the development of the plan and contributed financially to the project. The Corangamite and Glenelg Hopkins Catchment Management Authorities and Southern Rural Water have also contributed financially. An overarching document puts the five plans in a regional environmental context, describes common actions for the five plans and suggests a model for continuing the council's partnership to support each other in achieving sustainable water use.

The Victorian Government's 2004 White Paper, 'Securing Our Water Future Together', initiated the development of sustainable water use plans for councils across Victoria. Once it is adopted the sustainable water use plan will form an integral part of Wannon Water's supply-demand strategy which is due for publication in February 2007, and the regional sustainable water strategy, which to be developed in 2008. Underlying these strategies and plans is the decline in volume and quality of available water and the need to redress the imbalance between demand and supply.

CURRENT WATER USE

It is estimated that Southern Grampians Shire Council uses 62,000 kL/a of water, supplied though Wannon Water's Cruckoor Reservoir and the potable supply system, and the council-owned Old Reservoir. The council is also licensed by Southern Rural Water to extract 90,000 kL/a of bore water, although the actual volumes extracted are unknown. Council uses water predominantly for irrigation of gardens, sports grounds and public space, for industrial type applications such as at the saleyards and truck depot, and for council services such as libraries, swimming pools and public toilets. Preliminary projections show that water use will slowly increase over the coming years if no action is taken to reduce consumption, placing further stress on the region's diminishing water resources.

REDUCTION TARGETS

As part of this plan council has adopted challenging but achievable targets for reduction in its water use, based on consumption in 2005–06. The adopted targets are:

- 10 per cent by 2012—equivalent to a reduction of 6,200 kL/a
- 20 per cent by 2017—equivalent to a further reduction of 6,200 kL/a or 12,400 kL/a overall.

Figure 1 shows the projections of water use without any initiatives for its reduction. It also shows the reduced use if the targets for reduction are reached.

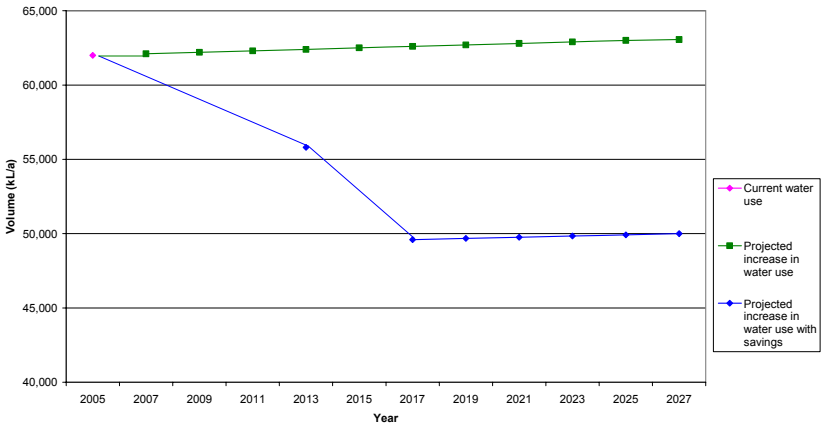

Figure 1
SOUTHERN GRAMPIANS SHIRE COUNCIL: PROJECTED WATER CONSUMPTION TO 2026 WITH AND WITHOUT REDUCTION MEASURES

OBJECTIVES

A set of objectives have been adopted by council 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 to assist council to reduce water consumption. One of the most important actions is for the councils who worked together to develop this plan to continue the working relationship and form 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 together on some initiatives.

Many of the actions focus on monitoring or auditing the use of water, which is currently not fully metered in the shire. The use of water must be monitored in order to understand where and when it is being used and the effectiveness of the water saving actions which have been implemented. 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. These actions will particularly focus on the big water users where significant progress can be made quickly.

Other 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 Southern Grampians Shire for using alternative water sources for applications such as irrigation and truck washing.

IMPLEMENTATION

Sufficient actions have been identified to enable council to achieve its targets. The actions have been prioritised according to how much impact an action will have and the effort it will take to implement the action. The actions have also been assigned a start year.

The recommended steps for the council are to review the actions they have developed and plan a schedule for either carrying out projects or investigating projects further. Some projects can be started immediately. Other actions require further definition, investigation and costing to evaluate their feasibility from a practical, economic, social and environmental standpoint. It may be that some of the actions are not feasible or not acceptable to the community. It is recommended that, after the schedule is developed, council determines who will carry out the work for the actions, seek and examine funding opportunities, and finally commence implementation and monitor progress towards achieving the targets.

1 Introduction

Municipal councils have an influential position within communities. They are able to raise awareness of a variety of issues, educate a community as well as influence and lead a community towards sustainable practices. Councils are also able to work with commercial and residential developers to ensure that new developments are efficient and effective in their use of resources now and into the future.

The development of sustainable water use plans (SWUP) for all councils across Victoria was initiated by the Victorian Government's 2004 White Paper, 'Securing Our Water Future Together'. The process is being guided by the Department of Sustainability and Environment (DSE). The purpose of the SWUP is to assist councils to conserve water use by identifying areas where water could be used more efficiently and effectively.

The approach to achieving sustainable water use is two-fold:

- to achieve efficiency in water use to conserve water
- to replace potable water with other (alternative) sustainable water sources to conserve potable water and reduce the burden on potable water sources.

The SWUP will help councils use their position of leadership to achieve sustainable water use in their community and region. It will allow councils to demonstrate to the community practical ways of achieving substantial water savings.

Reduction in water use can show a real financial saving for councils but it is also important for other reasons. While the drought continues in Victoria, reducing our water use is essential to ensuring short-term supplies remain available and enough water is allocated to the environment and industry. In the long term, growing populations and projected climate change resulting in reduced water availability make it essential that as a community we reduce our reliance on traditional water sources.

This plan was developed by Kellogg Brown and Root Pty Ltd (KBR) for the Southern Grampians Shire Council in conjunction with the regional water authority Wannon Water and four other councils in south west Victoria. The water reduction targets and actions described in this document create a direction for Southern Grampians Shire Council to examine and establish effective ways of reducing water use that are acceptable and of benefit to the community.

2 Context for sustainable water use planning

2.1 OBJECTIVES OF THE PLAN

The objectives of the plan are to:

- review water consumption of council—run facilities over a minimum of three years
- establish baseline water consumption before any water restrictions were in force
- develop broad objectives for water conservation
- develop targets for water conservation
- develop a method of monitoring and reporting to determine if targets are being met
- develop a series of actions for water conservation stemming from developed objectives. The methods for water conservation are to:
  - firstly, reduce or avoid water consumption
  - secondly, reuse water and use water from alternative sustainable sources
  - then, to use recycled water sources.

  This is the waste management hierarchy as typically used to reduce production of solid waste but it is equally applicable to water saving plans.

2.2 OVERVIEW OF THE REGION

2.2.1 Water supply and treatment

Wannon Water is the responsible water authority for the Shires of Corangamite, Glenelg, Moyne and Southern Grampians and the Warrnambool City Council. It was formed on 1 July 2005 as a result of the amalgamation of Glenelg Water, Portland Coast Water and South West Water. It services a population of around 70,000 over an area of 24,000 km^2 and provides water and wastewater services to residential, commercial and industrial customers based in townships and rural areas.

Within the Southern Grampians Shire, Wannon Water services the towns of Hamilton, Coleraine and Dunkeld with urban water and wastewater services and Balmoral, Cavendish, Tarrington and Penshurst with potable water supply only. Hamilton, Tarrington, Dunkeld and Cavendish are supplied from sources in the Grampians National Park by a pipeline to Hamilton. Water for Cavendish is supplied from an off-take from this pipeline and treated at Cavendish, while Tarrington and Dunkeld are supplied from water treated at the Hamilton water treatment plant. Balmoral is supplied from Rocklands Reservoir, Coleraine is supplied from the Konongwootong

Reservoir and Penshurst from a nearby bore field. Balmoral, Coleraine and Penshurst all have their own water treatment plants. Dunkeld, Coleraine and Hamilton all have wastewater treatment plants (WWTP) and reuse the treated effluent.

In addition to the main Wannon Water potable supply, council assets draw water from several other sources. The Hamilton aerodrome, a council run facility, uses water from Cruckoor dam, owned by Wannon Water, which is supplemented by rain water collected from structures on the site. Most of the open spaces in the region use water from the council-owned Old Hamilton Reservoir to replace or supplement the potable water supply. The separate distribution network for the reservoir is shown in Figure 2.1.

The Hamilton potable water supply is also supplemented at Mitchell Park with recycled water from the Hamilton WWTP.

Effluent from the Hamilton WWTP is also treated to a high standard and used as industrial process water.

As council is aware water shortages have placed the community in a position where demand will very shortly outstrip supply. The council is in a position to play an important role in curbing water use.

Conversely Coleraine has a relatively secure water supply and there is far less concern about the demand for water in this region in the community.

At the time of writing Hamilton, Dunkeld, Tarrington and Cavendish had just moved to Stage 3 water restrictions while Balmoral and Glenthompson, already on Stage 3 restrictions, are due to move to Stage 4, the most extreme level of demand management, in the near future. Colerain and Penhurst are not subject to restrictions but are observing the requirements of the permanent water saving rules.

2.2.2 Catchment management

Southern Grampians Shire Council is sited in the Glenelg Hopkins Catchment Management Authority (CMA) area.

Glenelg Hopkins and Corangamite CMAs and have both contributed financially to the SWUP project for the five councils because they support programs for increasing awareness within council and the local community on where water comes from and the limitations in its supply. The CMAs would like actions developed which:

- make council and the community more aware of the necessity of saving water
- reduce water consumption and reduce pressure on surface water supplies, particularly during the summer months
- increase efficiency of water use.

The Glenelg Hopkins CMA's regional catchment strategy has set targets for improvements in water quality, water use efficiency and the health of the rivers in the region. It is committed to working in partnership with local government to improve the sustainable management of natural resources, particularly providing support and technical information in the preparation of environmental plans and strategies. The organisation should therefore be in a position to assist Southern Grampians Shire Council in the implementation of some actions developed as part of this plan.

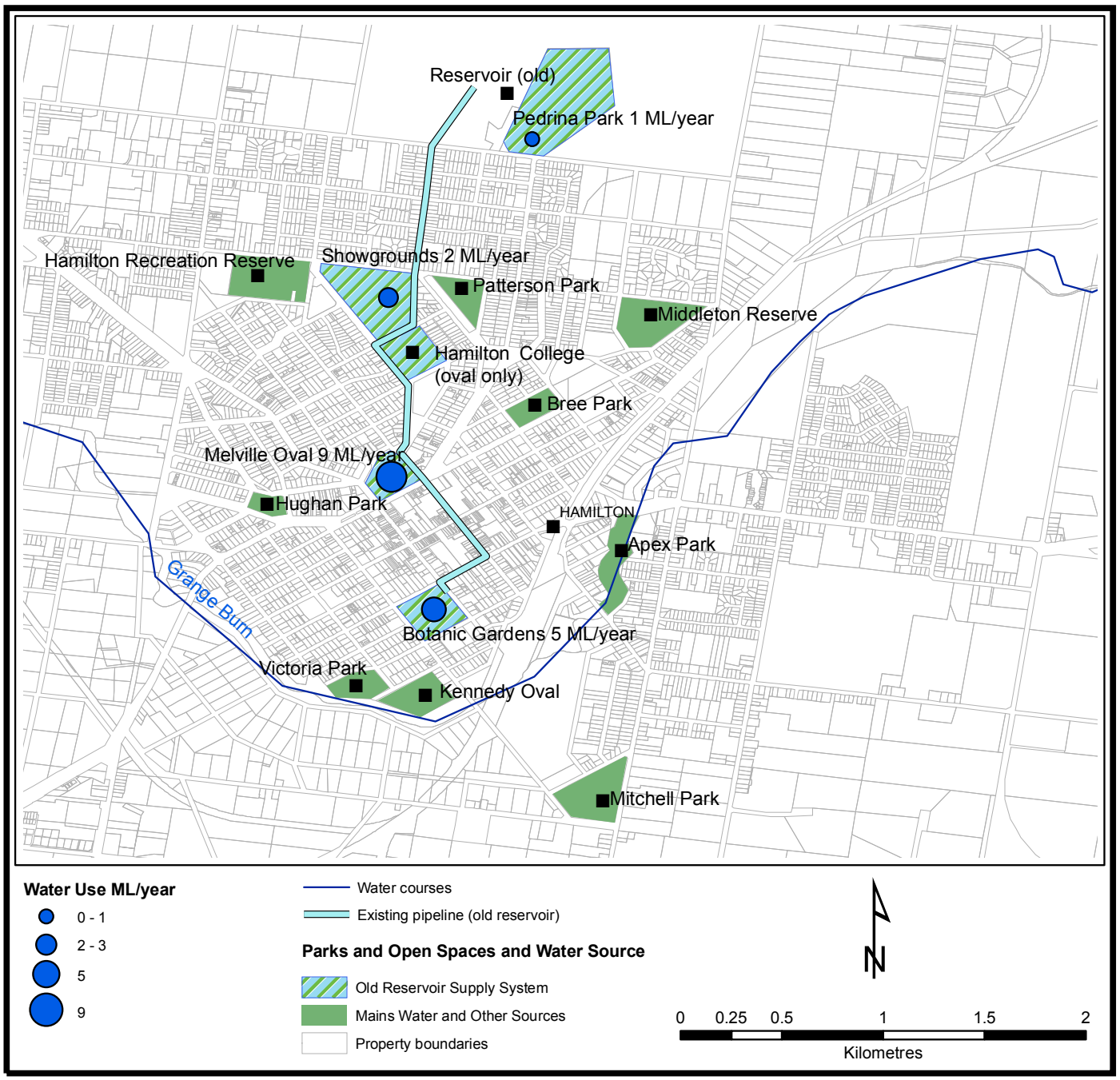

Figure 2.1
DISTRIBUTION NETWORK FOR THE 'OLD RESERVOIR' IN HAMILTON WITH WATER CONSUMPTION FIGURES FOR PARKS AND OPEN SPACES

Figure 2.2 shows the boundaries of Southern Grampians Shire council, the councils which collaborated on this plan, the Glenelg Hopkins and Corangamite CMAs and Wannon Water.

2.3 POLICY, LEGISLATION AND STRATEGIES

The Victorian Government's 2004 White Paper gives a framework for all Victorians to plan to reduce water consumption. The SWUP for regional local governments specifically supports actions 5.21 and 5.22 in the White Paper. Funding has been made available to local governments to complete the plan and to support the actions through the white paper actions 5.23 and 5.24.

Generally the White Paper sets out actions to facilitate using less water in each sector of the community, not just local governments. The actions include examining water consumption patterns and identifying areas for improvement, pricing water to encourage conservation, smarter water use through efficient appliances, water reuse and use of alternative water sources. In addition the White Paper looks to improve the condition of our waterways and aquifers to ensure their health now and in the future.

Wannon Water is developing a water supply demand strategy which will assist them to identify high risk areas and solutions for water management. The SWUPs of all five councils will assist Wannon Water in the development of this plan.

This SWUP also will feed into the sustainable water strategy for the south west Victoria region which will be developed by DSE. This strategy will examine water use in the region, what demands are made on water by people or the environment and how the situation can be managed to balance community, environmental and business needs into the future.

Local, state and federal governments have a variety of policies, acts, regulations and by-laws which will guide, control or make provision for many of the actions in this plan. The state and federal information can be found in Appendix A. This section outlines information specifically relating to Southern Grampians Shire.

Hamilton Stormwater Management Plan

The Hamilton Stormwater Management Plan (SWMP) was developed in September–October 2001. It aims to protect and enhance the local waterways by improving the quality of stormwater collected in urban areas.

The SWMP is an important document in understanding the strategic direction of council. Projects undertaken so far are:

- updating the drainage database
- cleaning stormwater drainage pipes
- completion of wetland construction near Hamilton Place
- 'No Littering' stencil signage on stormwater side entry pits in Hamilton CBD.

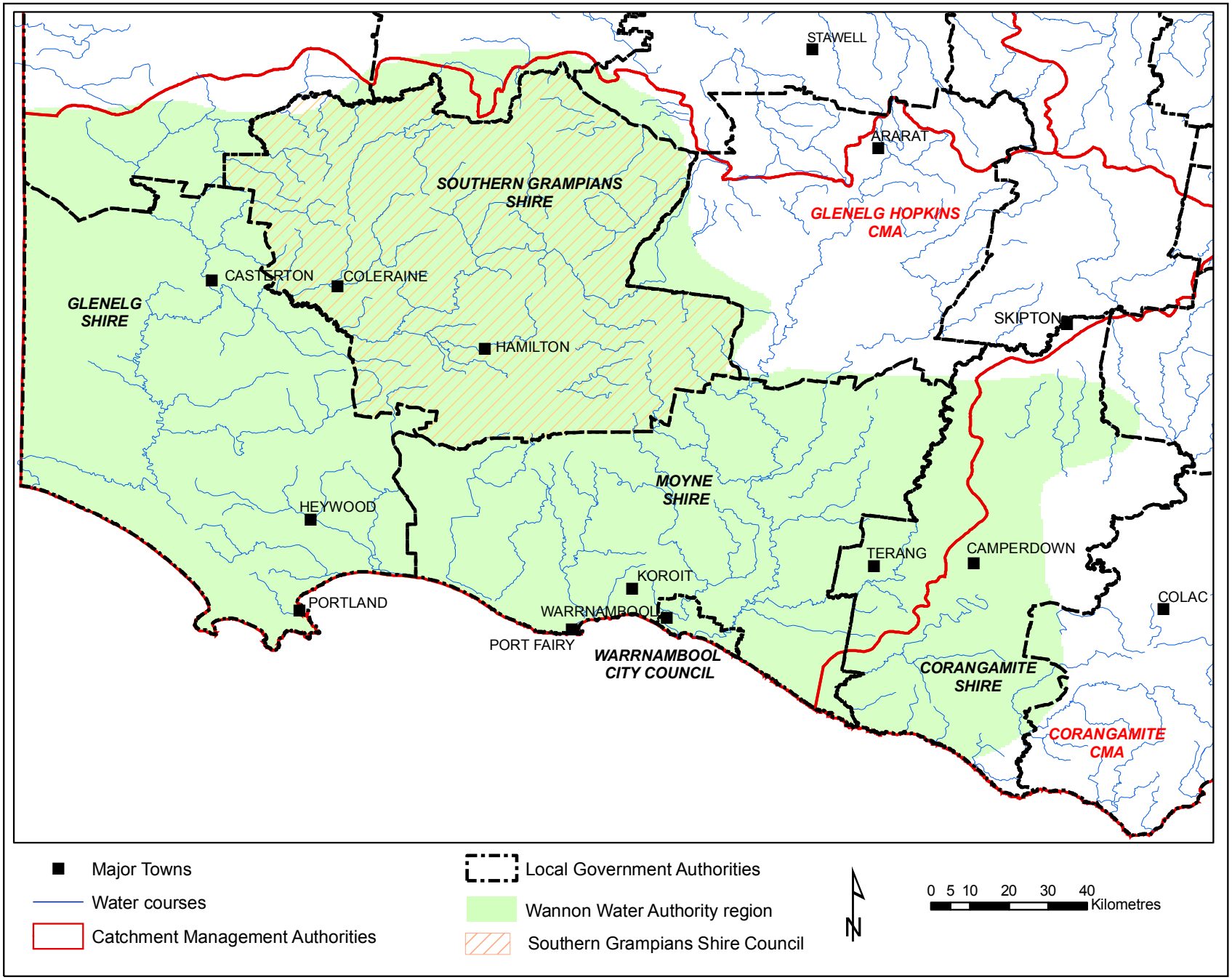

Figure 2.2
LOCATION OF SOUTHERN GRAMPIANS SHIRE AND CORANGAMITE AND GLENELG HOPKINS CMAS WITHIN THE WANNON WATER REGION

Blue–Green Algae Bloom Response Plan

This response plan details management actions which are to be enacted to manage access to Lake Hamilton when a threat of an algal bloom is detected.

Lake Hamilton Management Plan

This management plan provides all information for the management of Lake Hamilton and actions for ongoing management of the lake.

Area Improvement Program Water Quality in the Grange Burn Catchment

This program implemented in May 2004 affects the 25,000 ha surrounding Hamilton. The actions were developed to enhance the water quality in the Grange Burn and tributaries by developing land use strategies to prevent pollutants from entering the waterways.

Local Government—Building Code of Australia

The relevant section of the Building Cost of Australia is that no water is to leave a property and affect another property. This is applied through the building permit system.

2.4 PROGRAMS, PLANS AND INITIATIVES

There are many initiatives for water conservation that are either stand alone programs or programs which councils can tap into to help achieve their water conservation goals.

Permanent water saving rules are in force across Victoria, with some areas on additional water restrictions due to water storage levels in their area. The permanent water saving rules will help council and community achieve consistent savings. The uniform water restrictions brought in as required will help people understand what water savings are required when water storages reach certain levels and promote a transparent and equitable system.

Water sensitive guidelines for urban development will assist local councils to implement passive features which reduce water use in new developments.

Water efficiency labelling has recently become compulsory for appliances, fixtures and fittings and is a simple and effective way of comparing goods for purchase. The Water Efficiency Labelling Scheme is a joint initiative of the Australian state and territory governments.

International Council for Local Environmental Initiatives (ICLEI) Local Governments for Sustainability, a non-government organisation focused on sustainability, runs a water campaign which councils can subscribe to and produce a plan similar to the SWUPs for all water users in a shire or city. ICLEI runs a variety of programs to assist councils in sustainable initiatives, although council would have to subscribe to a particular program to benefit.

Local initiatives and opportunities

Although there are no specific strategies for water saving by Southern Grampians Shire Council, individual departments have taken responsibility for improving efficiency of appliances and effectiveness of the water that is used in their domain.

The Parks and Gardens department uses water from the Old Hamilton Reservoir, a council owned facility, and potable water from the Wannon Water network. They are only required to adhere to Wannon Water's permanent water saving rules for the use of the potable supply but council workers have voluntarily imposed these rules on using water from the old reservoir. This is often difficult to manage because watering times are generally not in normal working hours and the irrigation systems are mostly manual. Other initiatives from this department include mowing grassed areas less frequently thus allowing grass to develop deeper roots, planting perennials which require less water than annual plants and using more indigenous and native plants which are more tolerant of drought conditions. A major project planned for the future is replacement of the manual irrigation system with a best practice automated irrigation system.

Southern Grampians Shire Council does not use potable water for road construction, recycled and surface water is used.

The Asset and Maintenance departments have:

- installed water meters on the old reservoir lines to start monitoring water use
- undertaken to fix leaking swimming pools including lining with fibreglass in an effort to save water
- replaced tap washers and other leaking appliances promptly to reduce water wastage and are replacing units with standard parts to reduce lead time on replacement of a faulty part
- started repairing and replacing aged infrastructure for water collection and distribution at the aerodrome.

Other initiatives include using high pressure hoses for cleaning at swimming pools instead of garden hoses, and good house keeping with respect to reporting and fixing leaks.

A significant step which Southern Grampians Shire Council has taken towards monitoring water use is installing meters on the Old Hamilton Reservoir which supplies water predominantly for irrigation. This work is complete; data will be available from the end of the 2006 financial year.

2.5 FUNDING OPPORTUNITIES

The Victorian Government's 2004 White Paper, makes provision for several funding streams to be made available. There are also other sources of funding which can be accessed to partially or completely fund projects. Government based funding streams available to council are listed below and detailed in Appendix B. There are other opportunities for council and private funding of projects which can be investigated as required.

Funding opportunities are:

- Sustainability Fund
- Smart Water Fund
- Australian Government Water Fund
- Drought Relief for Country Sports Program
- Water Smart Australia
- Raising National Water Standards Program
- Community Water Grants
- Small Towns Development Fund.

2.6 STAKEHOLDERS IN PLAN DEVELOPMENT

The development of this plan for Southern Grampians Shire Council was undertaken in conjunction with four other councils in the region:

- Corangamite Shire
- Warrnambool City
- Glenelg Shire
- Moyne Shire.

The project was led by the regional water authority, Wannon Water. Representatives from Wannon Water and the five councils formed a steering committee to guide the development of the plan and the community consultation process. DSE was also represented on the steering committee.

Southern Grampians Shire Council specifically sought input from:

- Central Highlands Water
- Departments of Southern Grampians Shire Council
  - Environmental Management
  - Planning
  - Parks and Gardens
  - Recreational Services.

Other stakeholders in the plan are:

- council employees
- committees of management for council assets
- Corangamite and Glenelg Hopkins CMAs
- the community—particularly in relation to those who may come into physical contact with recycled water.

The major steps in the development of the plan are shown in Figure 2.3.

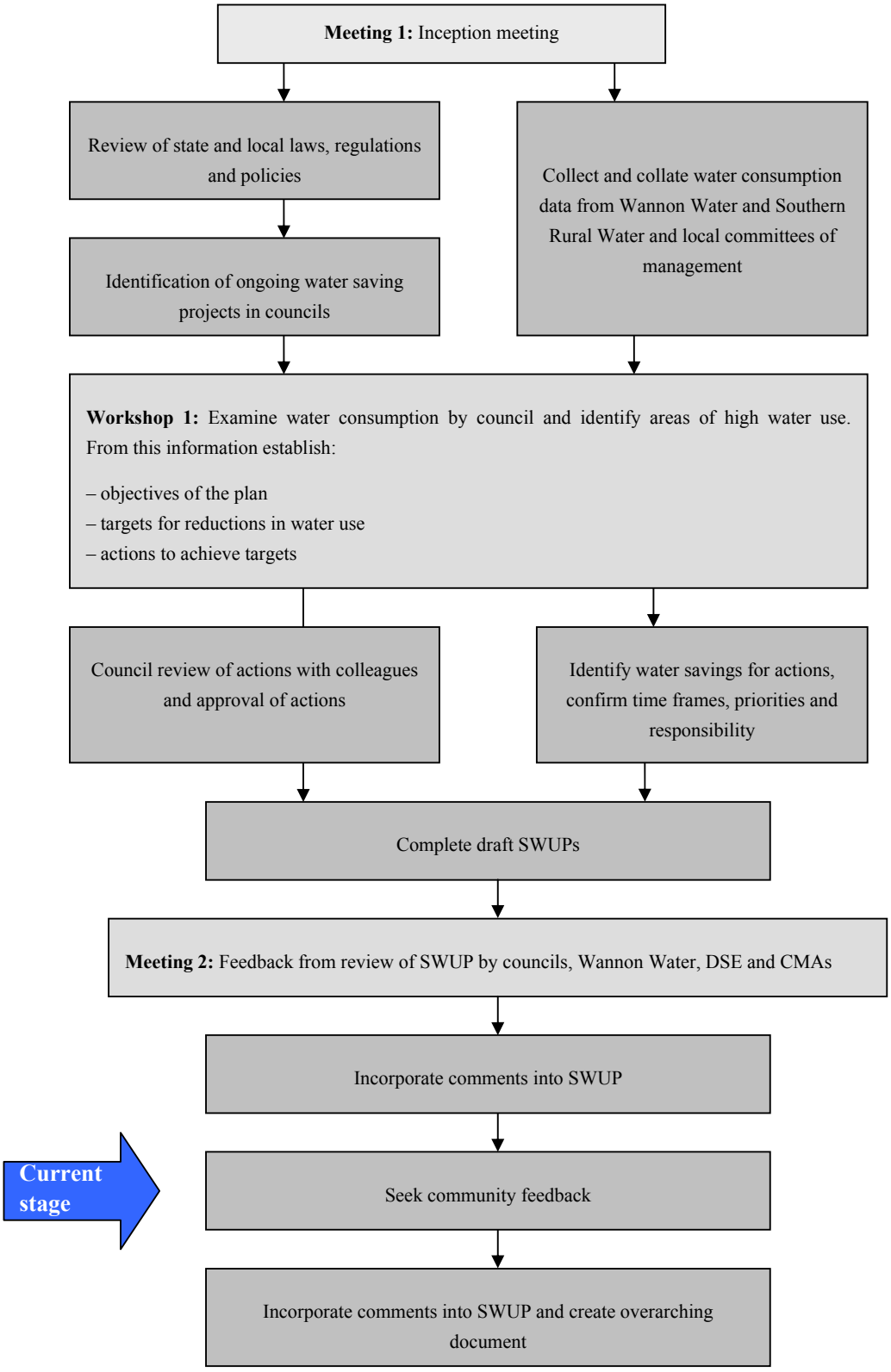

Figure 2.3
MAJOR STEPS IN THE DEVELOPMENT OF THE SUSTAINABLE WATER USE PLAN

3 Current and projected water consumption

3.1 HISTORICAL WATER CONSUMPTION

Southern Grampians Shire Council is in the unique situation of having very few of its assets connected to water meters. Therefore the potable water consumption for each asset is a nominal number set by the previous water authority.

The main potable supply from Wannon Water is not the only water available to the council. The Cruckoor reservoir owned by Wannon Water, the Old Reservoir run by council and bores (as listed in Table 3.1) are all used to supplement the supply. At this stage there is little information available on water consumption from these sources. Metered data is available for:

- some assets operating off the Old Reservoir up to June 2003
- assets operated by committees of management for 2005–06 financial year.

The most complete data set is the combined metered and un-metered data for 2005–06. Total water use for this year was 62 ML, which will be taken to be the baseline year from which reductions in use are measured.

The consumption of water should be reviewed regularly as assets are metered and data on water consumption becomes more accurate. Water use as supplied by Wannon Water is shown in Figure 3.1.

Data available from other councils is presented by billing cycle and shows water use seasonally. Although this information is not available to Southern Grampians Shire Council, it is reasonable to assume that the pattern of high water use during the summer months holds true. A list of the assets and the water consumption as supplied by Wannon Water and the council is supplied is Appendix C.

Table 3.1 Bores in Southern Grampians Shire urban district which supply council facilities

Bore number	Use	Asset	Maximum volume to be extracted (ML/d)	Maximum volume to be extracted (ML/a)
66708	Industrial	Hamilton saleyards	0.2 (0.3*)	11.5
66659	Commercial	Hamilton swimming pool	0.05	9.0
51168	Urban	Penhurst public garden	1.1	50.0
55997†	Industrial	Hamilton truck wash	0.1	20.0

* *Maximum rate of extraction ML/d.*

† *Bore construction licence and commitment issued, however groundwater licence not yet issued for this bore.*

Source: Southern Rural Water.

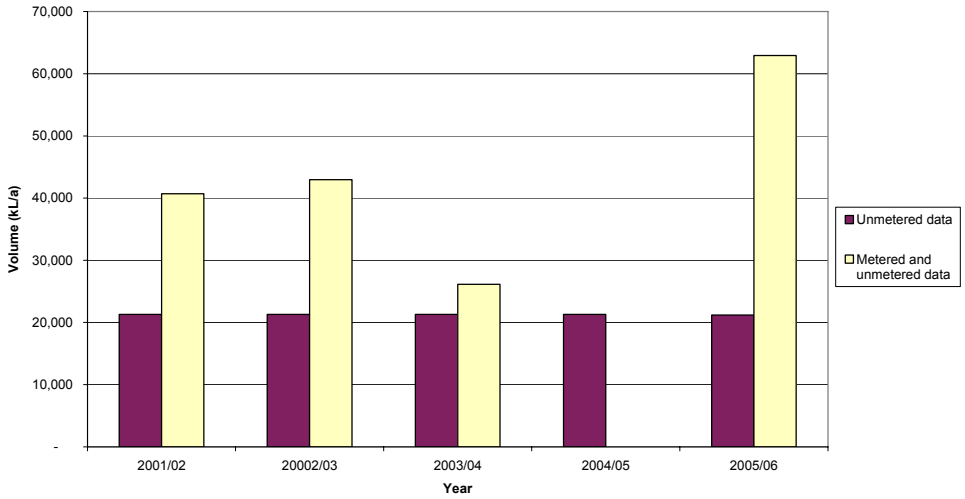

Figure 3.1
SOUTHERN GRAMPIANS SHIRE COUNCIL: TOTAL WATER CONSUMPTION BY FINANCIAL YEAR 2001–2002 TO 2005–2006

3.2 IDENTIFICATION OF MAJOR WATER USERS

To understand how water is used by council facilities, the water users were sorted into one of 14 groups, as shown in Table 3.2. This enabled identification of where the bulk of the water was being used in council facilities. Figure 3.2 shows water use by type of council facility which is consistent with 'Land Use Type' categories used by the ICLEI water campaign.

Even though water consumption data are mostly nominal figures, there is still some value in comparing which assets are thought to use the most water.

According to the data the highest water user groups in the shire are: public open space, council provided institutions, sporting grounds and road reserves. This is a diverse group of assets which will require different solutions to reduce water consumption.

One factor that may have influenced water use for Melville Oval, the showgrounds, and Botanical Gardens in Hamilton is the 6 month period when repairs were undertaken on the reservoir up until March 2006. During this period these sites sourced potable water through the mains system, rather than the untreated water that they usually access directly from the reservoir.

Figure 3.3 shows the top water users for 2005–06.

Table 3.2 Categories of water users

Category	Description	Examples
Swimming pools	Indoor and outdoor swimming pools and any associated grounds.	
Sporting grounds	Any irrigated area intended primarily for competitive sport.	
Road reserves	Grassed areas on council road reserves.	Nature strips, median strips.
Public toilets	Public toilets and conveniences	
Council buildings	Office buildings where council has direct influence over the water use in the building.	Municipal buildings, shire offices.
Caravan parks	Caravan parks.	
Council depots	All council operations sites.	Depots, tips, pounds, workshops, transfer stations.
Council provided institutions	A wide variety of properties where the land is council owned but council does not have direct control over water use.	Kindergartens, SES buildings, community halls, court houses, museums, restaurants, tourist attractions, libraries, information centres, kiosks.
Gardens		Botanic gardens, street gardens, planter boxes.
Saleyards	Saleyards and any adjoining land.	
Clubrooms and sporting complexes	Sporting clubrooms and indoor sporting complexes that do not have large areas of outdoor irrigated land.	Netball stadiums, yacht clubs, rowing clubs.
Public open spaces	Irrigated open space that is not used for competitive sport.	Parks, playgrounds, BBQ areas, fountains, car parks, war memorials, river reserves, boat washing facilities.
Community houses		
Other (no description)	Installations that do not have a descriptive title in Wannon Water's metering data to allow the water use to be known. All large users in this category were investigated in order to describe an actual use and so were consequently re-allocated.	

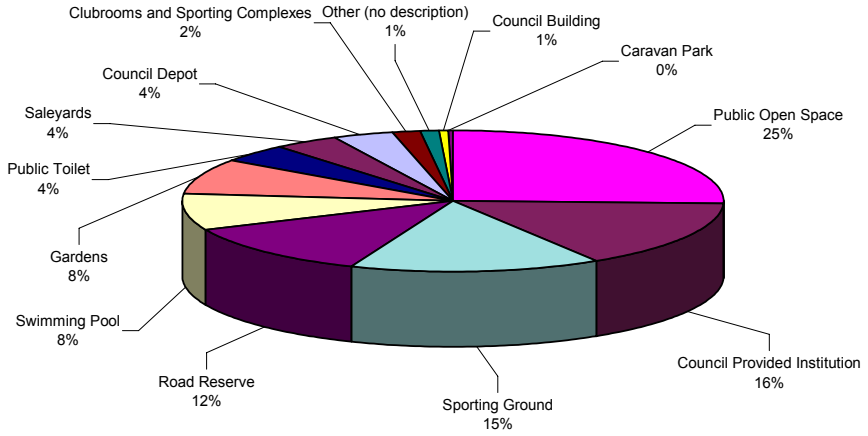

Figure 3.2
SOUTHERN GRAMPIANS SHIRE COUNCIL: AVERAGE WATER USE FOR 2004–05 OF GROUPED COUNCIL FACILITIES AS A PERCENTAGE OF TOTAL WATER USE (POTABLE AND NON-POTABLE SOURCES)

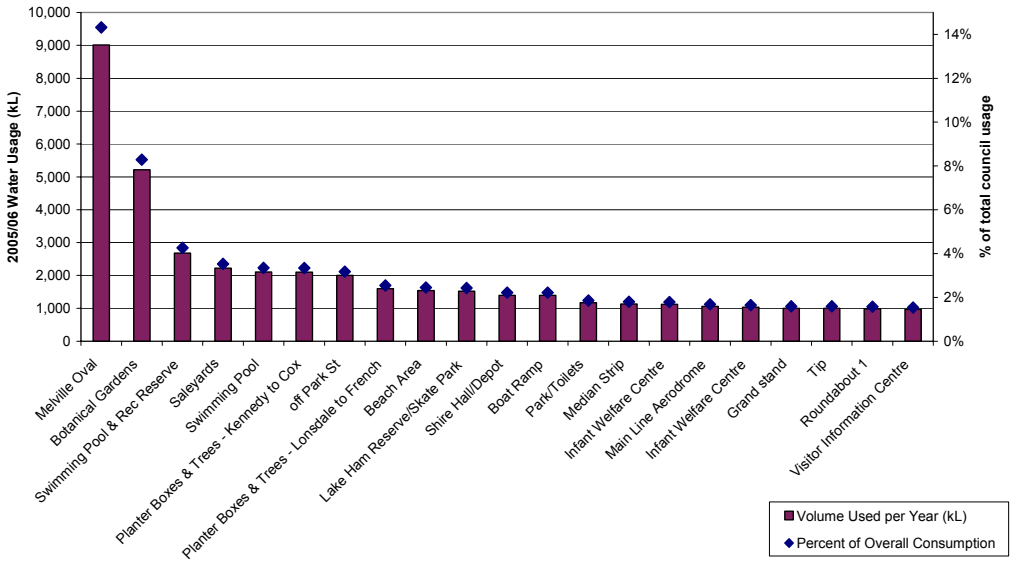

Figure 3.3
SOUTHERN GRAMPIANS SHIRE COUNCIL: TOP 20 WATER USERS 2005/2006

3.3 PROJECTED WATER CONSUMPTION

It is hard to quantify the effect that population changes, increase in council services and climate change will have on water use by a council. Population and services are unlikely to have a significant bearing on water use in Southern Grampians Shire.

Therefore the method used to project water consumption to 2026 is based on climate change and associated increase in water use. This method was proposed by Wannon Water. To predict changes in water consumption, findings by Wannon Water and CSIRO on mean annual reduction in surface run-off and the additional demand on potable and raw water this creates have been used. The median climate change scenario predicted by CSIRO (Jones, R.N. and Durack, P.J. 2005) is that over the next 20 years there will be a 1 per cent decrease in surface run-off. Current DSE predictions are that demand will increase by one-sixth of the decrease in surface run off, i.e. there will be a 1.7 per cent increase in demand over 20 years.

Projecting water consumption is of limited value when the true amount of water used is unknown. As more services are metered council will get a better picture of their water use which may be significantly different to the quantities estimated now.

Figure 3.4 shows historical water consumption by Southern Grampians Shire Council and the predicted water consumption to 2026 assuming no action is taken to reduce demand.

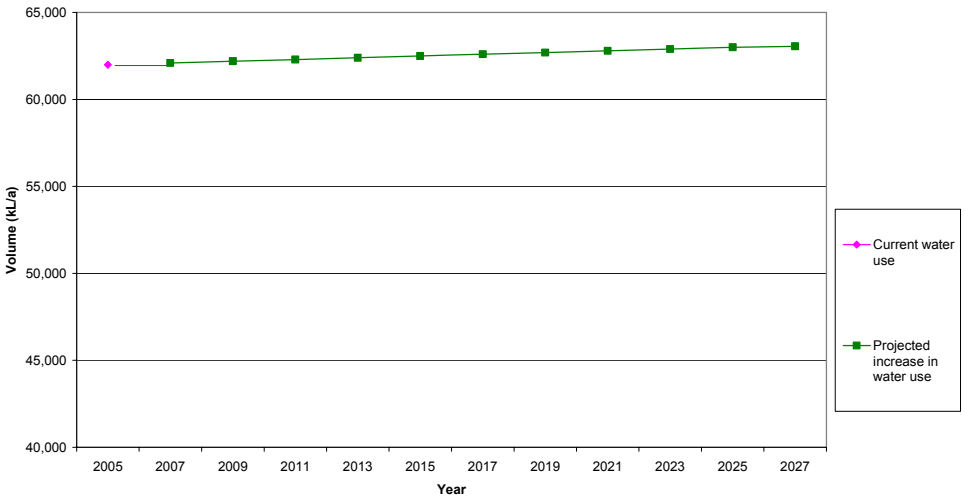

Figure 3.4
SOUTHERN GRAMPIANS SHIRE COUNCIL: PROJECTED WATER CONSUMPTION WITH NO ACTION TO REDUCE WATER CONSUMPTION

3.4 WATER SOURCES AND QUALITY

Although the bulk of water used by council facilities currently is potable water, this is not the only available water or is it always necessary to use such high quality water. Table 3.3 shows a variety of water uses and the water source and quality that could be used as an alternative. Inclusion of raw bore water as a source is not meant to imply that this is always a sustainable water source, simply that it may sometimes be an appropriate alternative to potable mains water.

Table 3.3 Possible alternatives to potable water sources for various uses

Water use	Reclaimed water from a wastewater treatment plant*	Stormwater run-off	Rain water	Grey water	Raw bore water
Water use in municipal area with uncontrolled public access (irrigation, wetlands, fountains, gardens, open sportsgrounds)	Class A	Y	Y	N	Y
Toilet flushing	Class A	Limited	Y	Limited	Y
Water use in a municipal area with controlled public access	Class C	Y	Y	Limited	Y
Pool top up water	N	N	Y	N	Y
Showers, kitchen and similar	N	N	Y	N	Y
Saleyard and washdown water	Class B	Y	Y	Y	Y
Dust suppression	Class C	Y	Y	N	Y
Road construction	Class C	Y	Y	N	Y

Note: Y = Yes, N = No

**Class A:* *tertiary treated sewage including pathogen reduction. Suitable for uncontrolled public access, crops which are consumed raw and open industrial systems.*

Class B: secondary treated sewage including pathogen reduction. Suitable for controlled public access for irrigation of livestock areas or washdown water in industrial settings.

Class C: secondary treated sewage including pathogen reduction but to a lesser extent than class B. Suitable for use in areas with controlled public access, crops which are processed or cooked before use and industrial water where there is no contact with workers.

Source: Guidelines for use of reclaimed water (EPA Victoria).

4 Objectives and targets for water conservation

4.1 WATER CONSERVATION OBJECTIVES

Broad objectives were developed for water conservation in a workshop with representatives from all five councils, Wannon Water and DSE. The objectives which have been subsequently adopted by council are to:

- 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.

4.2 WATER REDUCTION TARGETS

Targets for reducing water use by the council were also developed in the workshop. The adopted targets represent consensus agreement of council representatives on a challenging but achievable target. The targets are based on the water use in 2005–06:

- 10 per cent by 2012—equivalent to a reduction of 6.2 ML/a
- 20 per cent by 2017—equivalent to a further reduction of 6.2 ML/a or 12.4 ML/a overall.

Figure 4.1 shows projected water consumption to 2026 with water use reduction measures.

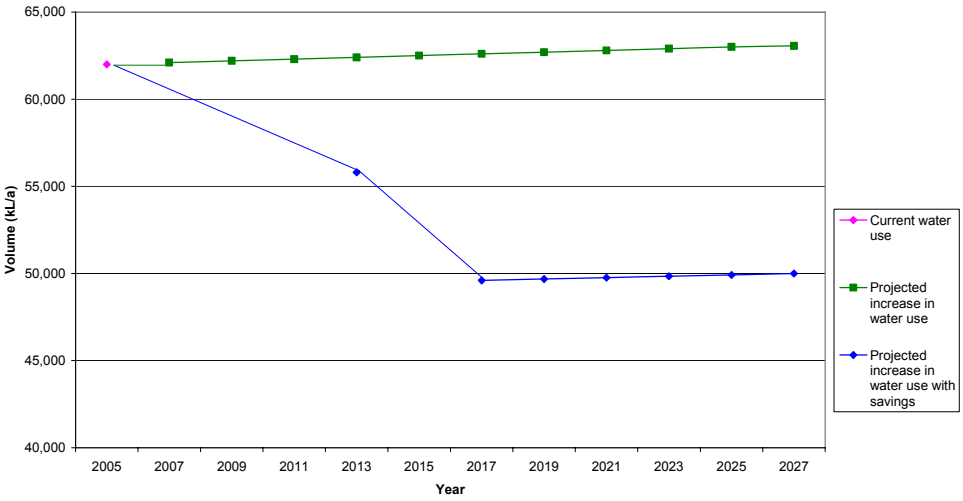

Figure 4.1
SOUTHERN GRAMPIANS SHIRE COUNCIL: PROJECTED WATER CONSUMPTION TO 2026 WITH AND WITHOUT REDUCTION MEASURES

5 Actions, planning and implementation

5.1 ACTION DEVELOPMENT

Actions for saving water which fit with the objectives of the plan were also developed at the workshop where objectives and targets were set, Section 4. Actions were developed based on water use data as presented to council representatives in Section 3 of this plan. Table 5.1 shows the actions developed as well as the priorities, time frames and the department which will be responsible for carrying out that action. Other information such as water saving potential, cost and opportunities for collaboration were added subsequent to the workshop.

5.1.1 Priority setting

Priorities were set by allocating a number based on the impact and effort of an action. Actions which were thought to have a high impact on saving water but were low in effort to implement were allocated a score of 1 and are therefore the highest priority actions. Scores of 2, 3 and 4 were allocated based on the impact and effort as shown in Figure 5.1, with 4 being the lowest priority action. Effort takes into account the time, cost and general effort council would have to put into an action to make it happen.

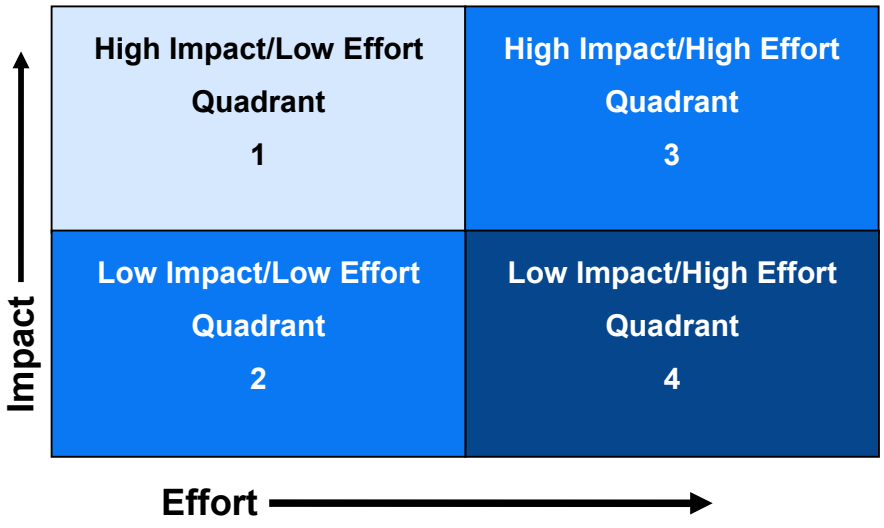

Figure 5.1
ACTION PRIORITY SETTING CHART; ACTIONS IN QUADRANT 1 ARE TOP PRIORITIES

There are many ways priorities can be set. This method was developed for the workshop because it is transparent, easy to use, quick to apply and provides meaningful results.

5.1.2 Time frames

The time frame for actions was also set in the workshop. This was based on the priorities and knowledge council representatives have about actions that are already in progress, actions that would be possible in the coming financial years and ones that need to be delayed. The time frame for each action to begin has been specified (see Table 5.1) although some actions have no defined start date because they are a process of continuous improvement in council practice.

5.1.3 Identifying potential water savings

Water savings can be quantified for actions where the breakdown of water use is available or can be estimated, and where literature exists on water savings that can be made in these facilities. Examples of these include swimming pools, office buildings and sporting grounds.

The water use patterns for some assets are not so easily defined or the potential sources cannot be identified at this stage. In these cases the water savings cannot be calculated.

Where an estimate of water savings has been made it is indicated in Table 5.1 with the actions.

5.1.4 Responsibilities

Each council nominated the department within council that would be responsible for carrying out the action. All actions would need to be initiated by the council's SWUP champion who could be the council representative on the steering committee or council's Chief Executive Officer. Either way the plan should have the full support of the council and its Chief Executive Officer.

5.2 REPORTING AND REVIEW MECHANISM

Southern Grampians Shire Council together with Wannon Water and the other four councils which worked together to produce their SWUPs will form a working group to be titled South West Municipal Water Committee (SWMWC). This group will work together in the future to ensure water use goals are being achieved.

Meetings will take place every six months and will provide a forum for councils to discuss what has worked and what has not, share knowledge and collaborate on projects, possibly with a view to making joint funding applications.

It is expected the council representatives will report to their councillors on an annual basis. By implementing a regime for regular committee meetings and reporting, councils will be able to easily meet the reporting requirement.

It is a DSE requirement that progress on the SWUP be included in the annual council report. The progress report must be included in, or as an attachment to, council's annual report and must report on the key performance indicators as follows:

- council's progress towards meeting its objectives and targets for water conservation
- a description of actions or tasks undertaken for conserving water
- estimated water savings from actions or tasks undertaken.

Over time it can be expected that water efficiency gains will become embedded within the key performance indicators which are used for comparison of councils across Victoria.

A five year review of the SWUP should be undertaken, including a review of targets, actions and objectives, taking into account changed facilities, climatic patterns, population trends and technologies.

Table 5.1 Actions for the Sustainable Water Use Plan for Southern Grampians Shire Council

Actions/recommendations	Department	Water saving potential	Cost for action or investigation	Project start year	Priority*	Opportunities for collaboration and funding. Notes on action
IMPROVE MONITORING OF WATER USE BY COUNCIL ASSETS						
1. Continue partnership with other councils and form the South West Municipal Water Committee	SWUP steering committee representative	No direct savings	Low. Internal process	2007	1	South West Municipal Water Committee (SWMWC).
2. Investigate the use of a data collection system administered by Billing and Accounts department to track water consumption	Billing and Accounts	No direct savings	Low. Internal process	2007	1	SWMWC, Wannon Water and Southern Rural Water.
3. Devise standard templates for reporting on key performance indicators for annual report	SWUP steering committee representative	No savings	Low. Internal process	2007	1	SWMWC. This will streamline the reporting process.
4. Review capacity of the Old Reservoir	Engineering	No direct savings	Low. Internal process	Ongoing	1	The infrastructure currently exists to monitor usage form the reservoir and to monitor levels at the reservoir.
EDUCATE COUNCIL EMPLOYEES AND THE COMMUNITY IN WATER SAVING METHODS						
5. Do a presentation to Council staff on the SWUP. This is an integral part of implementing a water saving plan	SWUP steering committee representative	No direct savings	Low. Internal process	2007	1	SWMWC.
REDUCE WATER CONSUMPTION IN THE TOP WATER USING ASSETS						
6. Perform a water audit on outdoor watering practices and infrastructure throughout public open space areas, sporting grounds and gardens. Include:	Parks and Recreation	800 kL/a	Internal process or work with independent irrigation consultant	Ongoing	2	Irrigation Association of Australia. Best practice for irrigation established in action 12. 60% of water consumption is by these assets. Assume 2% reduction is possible by 2012.

Table 5.1 Continued

Actions/recommendations	Department	Water saving potential	Cost for action or investigation	Project start year	Priority*	Opportunities for collaboration and funding. Notes on action
• review of watering schedules including frequency, timing and if watering is actually required • review possibility of installation of best practice irrigation systems						
7. Monitor watering frequency and other relevant data though a log book system	SWUP steering committee representative	No direct savings	Low. Internal process	2007	1	Collecting this data will enable Council to focus on areas that need frequent irrigation or areas that are being over irrigated.
8 Replace exotic or high water using plants with drought tolerant species as new plants are required	Parks and Recreation	No data available	Low. Internal process	Already started	1	Plants replaced as required so no additional cost to council.
9. Perform an audit on council assets to detect leaks	Parks and Recreation	No data available	Low. Internal process	Ongoing	2	Green Plumbers association could be used to support program if required.
10. Review machinery washdown procedures at depots and saleyards. Are there opportunities for reduction in water use or substitution?	Engineering	Data collection in progress	Internal process or work with consultant	Already started	1	The Hamilton Livestock Exchange is currently undergoing redevelopment including installation of a roof over cattle yards. There is a funding application in for funding to install rain water tanks for washwater. A similar opportunity is available at the depot.
IMPLEMENT BEST PRACTICE AND ONGOING PROGRAMS FOR WATER USE REDUCTION AND DEMONSTRATE COUNCIL'S COMMITMENT TO WATER USE REDUCTION						
11. Review cost recovery opportunities with committees of management. Encourage COM's to take responsibility for own water use	Senior Management	Partially covered in action 6	Low. Internal process	Ongoing	1	
12. Establish best practice for outdoor watering practices and infrastructure	Parks and Recreation	See action 6	Low cost. Possible external consultation with experts	2007	4	SWMWC. This information will guide council in selecting technology for new and existing irrigation requirements.

Table 5.1 Continued

Actions/recommendations	Department	Water saving potential	Cost for action or investigation	Project start year	Priority*	Opportunities for collaboration and funding. Notes on action
INVESTIGATE ALTERNATIVE WATER SOURCES FOR PARTICULAR ASSETS						
13. Review existing sources of water for use at the depot. Consider moving to lower quality water	Depot staff	No data available but estimate 480 kL/a	Low. Internal process	Ongoing	1	SWMWC, SRW and WW. Council depot uses 2.4 ML/a. Assume 20% of this can be replaced with alternate sources. There is also an opportunity here to replace sources of water for road construction (which are not currently quantified) with, for example, recycled water.
14. Identify opportunities for retrofit of dual-flush toilets and AAA rated shower heads though a replacement program	Engineering	No data available	Cost neutral.	Ongoing	1	Units can be replaced as part of the regular maintenance works at which stage the most efficient appliance could be purchased. Alternatively, appliances which have high use could be replaced if the water savings give sufficient financial savings to provide a reasonable payback time.
15. Investigate if there is excess treated wastewater available from the Hamilton WWTP which could be used. This is high quality water suitable for a range of applications.	Engineering	No data available	Internal process or work with consultant	Ongoing	1	Wannon Water.
16 Investigate the potential for the expansion of the urban waste reticulation system in Hamilton for replacement of potable water	Engineering	NA	Internal process or work with consultant	Ongoing	1	Wannon Water—savings in potable water use only but switching to more sustainable source.
17. Investigate using water from the Konongwootong Reservoir for irrigating Silvester Oval in Coleraine using existing infrastructure	Parks and Gardens	NA	Low for investigation. Will be some infrastructure costs	2007	1	Wannon Water—savings in potable water use only but switching to more sustainable source.

Table 5.1 Continued

Actions/recommendations	Department	Water saving potential	Cost for action or investigation	Project start year	Priority*	Opportunities for collaboration and funding. Notes on action
18. Capture and recycle stormwater: • use rain water to replace potable water • stormwater to use for irrigation or washdown water	Depot Staff/ Parks and Gardens	No data available	Internal process or work with consultant	Ongoing	1	Wannon Water, Southern Rural Water, SWMWC and CMAs
19. Use stormwater to supplement inputs to wetlands and open space irrigation	Parks and Gardens	No data available	Internal process or work with consultant	Ongoing	3	CMAs

* *Priority as set using the 'Action priority setting chart' Figure 5.1.*

6 Conclusion

The targets for reducing water use that Southern Grampians Shire Council has adopted are achievable in the chosen time frames. The objectives and the actions that support them provide the council with a number of ways to reduce water use. Indeed if all investigative actions could be practically implemented then the targets would be likely to be exceeded.

The next stage of the project is for council to implement the plan using, for example, the following steps:

- review the actions and priorities
- develop a time-bound work plan to put actions in place
- determine actions to be carried out internally and those to be carried out by an external organisation
- examine funding opportunities to support work
- commence implementation and monitoring of achievements.

7 Bibliography

DSE. June 2004. *Victorian government white paper, Securing our water future together*

DSE. May 2005. *Guidelines for Developing Sustainable Water Use Plans for Regional Local Government*

EPA Victoria. June 2003. *Guidelines for environmental management – use of reclaimed water.*

Chanan, V., S. White, C. Howe and M. Jha, April 2003 *Sustainable Water Management in Commercial Office Buildings, Innovations in Water.* Paper presented at Ozwater convention & exhibition. Perth.

Presentation from Wannon Water - Regional Planning to 2055, Design of a Supply–Demand Strategy, Camperdown Workshop

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.

Communications with Southern Grampians Shire Council SWUP representatives.

Other general information was accessed at:

http://www.sthgrampians.vic.gov.au

http://www.ourwater.vic.gov.au

http://www.sustainability.vic.gov.au

http://www.smartwater.com.au.

http://www.nwc.gov.au

http://www.iclei.org

http://www.epa.vic.gov.au

http://www.epa.nsw.gov.au

http://www.melbournewater.com.au

http://www.dse.vic.gov.au

http://www.wannonwater.com.au

http://www.communitywatergrants.gov.au

http://www.glenelg-hopkins.vic.gov.au

http://www.ccma.vic.gov.au

http://www.irrigation.org.au

http://www.sgaonline.org.au (sustainable gardeners Australia)

http://www.greengardeners.com.au

Appendix A

POLICY INFORMATION

APPENDIX A

ADDITIONAL GOVERNMENT RELATED POLICIES

Victorian Government - Guidelines for Environmental Management - Use of Reclaimed Water

This guideline by EPA Victoria aims to "maximise the reuse of reclaimed water though minimising and managing any risk associated with its use". The guidelines can be used by councils to direct them in selecting appropriate ways to reuse and recycle water.

Victorian Government - A Framework for Alternative Urban Water Supplies 2006

This discussion paper is a stepping stone to building on the Guidelines for Environmental Management - Use of Reclaimed Water. The additional guidelines will further the definition of what is a water supply or alternate water supply and "establish water quality standards and appropriate management controls".

These additional guidelines are another outcome of "Our Water Our Future" and will provide assistance and guidance to councils in the future.

Victorian Government - State Environment Protection Policy (Waters of Victoria) 2003

There are several strategies within this policy that are applicable to the development of a municipality's sustainable water use plans. The SEPP requires that councils:

- Are involved in regional target setting for the protection of waters of beneficial use and that targets are set by considering the environmental, social and economic values of the region.
- ensure that their municipal plans and strategic and statutory planning tools are consistent with those put forward by the regional CMA's and EPA Victoria to protect waters of beneficial use from various users in the community such as new housing developments and industry.
- Share responsibility for reduction in water consumption in the community.

The SEPP (Waters of Victoria) also links to the SEPP (Groundwater). Groundwater extraction can have a profound effect on surface water flows and the general condition of a body of water, particularly in times of drought. The SEPP (Waters of Victoria) reinforces that groundwater extraction must not have a detrimental affect on beneficial uses of surface water.

Victorian Government - Victorian River Health Strategy

The Victorian River Heath Strategy (2002) provides the structure for improving the condition of rivers across Victoria. The strategy addresses issues such as declining water quality, degraded river habitats and environment flow needs and makes provision for projects which will have a significant benefit to the environment. Resulting from the Victorian River Health Strategy, Catchment Management

Authorities have developed regional River Health Strategies to act as an umbrella strategy for coordinating the other river related action plans.

Catchment Management Authorities - Regional Catchment Strategies

Each of the ten Catchment Management Authorities (CMA) across Victoria are required to produce and implement a Regional Catchment Strategy (RCS). In relation to water, CMAs are responsible for the operational management of environmental water reserves, the caretaker of regional river health, water quality management, the planning referral authority for floodplains and works on waterways, and regional drainage management, amongst other responsibilities.

Regional Sustainable Water Strategies

Regional Sustainable Water Strategies are a new planning tool for the Victorian Government to manage the competing needs for water between consumptive users and the environment at a regional scale. Both the RSWS and the WSDS will focus on identifying, analysing and assessing options for maintaining an appropriate and sustainable balance between demand for water and available water resources over a 50 year planning horizon. The strategy for the South West Region has not yet been developed.

Water Supply Demand Strategies

Water Supply Demand Strategies are currently being developed by water authorities to support smarter urban water use across Victoria through the total water cycle approach. WSDS's will identify the best mix of demand management measures, and supply options (including new and alternative resources) to continue to maintain an appropriate balance between urban water supply and demand over the next 50 years. In addition, the WSDS will provide outputs required for the State Government's Regional Sustainable Water Strategies (RSWS). Wannon Water expect to have their WSDS complete by February 2007.

Appendix B

FUNDING OPPORTUNITIES

APPENDIX B

FUNDING OPPORTUNITIES

WATER SMART GARDENS AND HOMES REBATE PROGRAM

This program provides rebates for water efficient products and fixtures in Victorian homes and gardens including rainwater and greywater tanks, shower roses, dual flush toilets, etc. All Victorian households connected to the reticulated water supply are eligible for the program. The council itself is not eligible however it may be a program they could encourage their residents to access. This program was initially due to finish on 30th June 2006 but has been extended to 30 June 2007. For more information see the web site at www.ourwater.vic.gov.au.

SUSTAINABILITY VICTORIA

Sustainability Victoria co-ordinates the application process for the Sustainability Fund program. The Fund is able to provide support to water, energy and materials saving projects. Round 2 of the fund applications closed in March 2006, with round 3 of the applications expected to open within the 12 months following this date.

Some of the water related projects that were successful in round 1 of the funding applications were

- Mackillop College Recycled Water Project. The project involves the use of recycled water from the Western Treatment Plant, Melbourne to irrigate the sporting fields, gardens and passive recreation areas at Mackillop College. An opportunity exists to tap into the Werribee Irrigation District recycled water pipeline located along the rear boundary of Mackillop College to use 20 megalitres of recycled water. The project will be completed by June 2007
- Darebin City Council, Edwardes Lake Our Lake – Growing Sustainability Together. This project will co-ordinate different aspects of sustainability related to a local water body including water and energy efficiency, waste reduction, water quality and litter reduction and biodiversity. The initiative will include several projects with participation from different community groups.
- Maribyrnong Council Stony Creek Neighbourhood Environmental Improvement Plan (NEIP) - Litter and Stormwater Project The project will reduce litter and pollution of Stony Creek and improve the amenity of the catchment. Through better resource use Stony Creek water quality will be improved and in turn water quality in the bay will benefit. The Project will assist with the implementation of the Stony Creek NEIP.

The web site for Sustainability Victoria should be monitored for announcement of the opening of round 3 of funding applications. www.sustainability.vic.gov.au

SMALL TOWNS DEVELOPMENT FUND

Victoria's 48 regional councils, of which Southern Grampians is one, are eligible for the Small Towns Development Fund (STDF). The fund is targeted at projects that enhance the appeal of rural townships and surrounding areas and contribute to economic development. STDF is an ongoing fund with applications considered monthly and funding available until 2009. Funding will be on a $2 (STDF) to $1 (applicant) basis and grants will generally not be awarded for amounts in excess of

$250,000 per project. Innovative water projects are considered eligible for this fund. These may be projects that improve the use of recycled water at community facilities such as bowls clubs and sports ovals, or projects that improve access to high quality drinking water.

See http://www.business.vic.gov.au/BUSVIC/STANDARD/1001/PC_61816.html

DROUGHT RELIEF FOR COUNTRY SPORTS PROGRAM

The Drought Relief for Country Sports Program provides grants to help rural communities develop sustainable approaches to water management to allow greater use of swimming pool and sports ground facilities. Funding will help Councils implement water efficiency measures to improve the condition of their swimming pools or sports grounds affected by acute water shortages.

There are two categories of funding covering swimming pools and sports grounds. Councils can submit up to four applications under both the swimming pool category and the sports ground category. These may consist of:

Swimming Pool category

- Two applications for funding up to $30,000
- Two applications for funding up to $15,000

Sports Ground category

- Two applications for funding up to $25.000
- Two applications for funding up to $10,000

Only Councils with towns on stage 3 and stage 4 water restrictions can apply for funding. The projects must be in towns or areas on stage 3 and stage 4 water restrictions. Please note that Councils with towns that introduce stage 3 or stage 4 water restrictions after 1 November 2006 are also eligible to apply.

It should be noted that preference will be given to projects which:

- are supported by a municipal Sustainable Water Use Plan
- demonstrate benefits to the facility, its users and the broader community
- demonstrate benefits to a number of venues or sports

Please refer to http://www.grants.dvc.vic.gov.au for guidelines, application forms and further information on how to apply.

AUSTRALIAN GOVERNMENT WATER FUND

Three separate programs are funded though this program. A total of $2 billion has been made available. The web site, www.nwc.gov.au, should be monitored for the opening of funding rounds. The web site also contains extensive information on projects which have been awarded funding so far.

Water Smart Australia and Raising National Water Standards Programme are administered by the National Water Commission which works under the Prime Minister's portfolio. The Community Water Grants Programme is administered by the Australian Government Departments of the Environment and Heritage and Agriculture Fisheries and Forestry.

Water Smart Australia

The Water Smart Australia program will fund large projects across Australia. Out of a pool of $1.6 billon major projects that are valued at over $1 million will be funded. Projects that are eligible for funding under the programme include those that will:

- improve river flows for better environmental outcomes
- return groundwater aquifers to sustainable levels
- lead to water savings through improvements in irrigation infrastructure
- encourage or advance efficiency improvements in on-farm water use
- desalinate water for use in cities and towns
- recycle and reuse stormwater, grey water and waste water from sewage
- provide more efficient storage facilities, such as underground aquifers
- provide alternatives to ocean outfalls and the better management of sewage in our coastal cities, or
- develop water efficient housing design.

Two rounds of applications and funding have been submitted and projects approved. The next round of funding is expected to open for application in early 2007. The monthly newsletter published by the Water Smart group can be subscribed to be following the link; www.nwc.gov.au/subscribe/newsletter.cfm

Raising National Water Standards Programme

This program will fund projects which contribute to Australia's capacity to monitor, measure and manage water resources. The objectives of the program are to better manage water resources though:

- improving capacity to monitor, evaluate and report on water resources at the national, regional and catchment level
- improving knowledge, information and skills needed to better manage our water resources, and
- enhancing innovation for rural and urban water use efficiency.

Many projects will be eligible for funding under this program and consulting the web site for comprehensive information is advised. However this program could be a path for funding of installation of water meters.

Community Water Grants

This program can help community groups achieve water savings though projects related to water saving and efficiency, water recycling and improving water way health. Groups which are eligible to apply for an Australian Government Community Water grant are;

- rural organisations

- local governments
- school, university or childcare facilities
- Aboriginal or Torres Strait Islander corporation, council or incorporated associations
- A fundraising organisation, such as a Rotary or Lions club
- sporting and outdoor recreation clubs
- health care organisations, such as a nursing home
- environmental groups

Information on this fund can be found at www.nwc.gov.au as well as www.communitywatergrants.gov.au. Round 2 of applications closed 25 August 2006, round 3 is expected to open early to mid 2007.

Appendix C

WATER USE LIST

Southern Grampians Water Use			Annnual Volume (kL)				
Category	**Street**	**Description**	**2001/02**	**20002/03**	**2003/04**	**2004/05**	**2005/06**
Caravan Park	Winter St, Coleraine	No 4. Caravan Park	100	100	100	100	100
Clubrooms and Sporting Complexes	Melville Oval	Grand stand	1,000	1,000	1,000	1,000	1,000
Council Depot	Monivae Street	Council Depot 1	300	300	300	300	300
Council Depot	Monivae Street	Council Depot 2	300	300	300	300	300
Council Depot	Monivae Street	Depot House	300	300	300	300	300
Council Depot	Elijah Street	Tip	1,000	1,000	1,000	1,000	1,000
Council Provided Institution	Melville Oval	Old House	100	100	100	100	100
Council Provided Institution	Brown Street	Art Gallery	100	100	100	100	100
Council Provided Institution	Brown Street	Economic Development Unit	270	270	270	270	270
Council Provided Institution	Brown Street	Library	100	100	100	100	100
Council Provided Institution	Gray Street	Mechanics Inst.	100	100	100	100	100
Council Provided Institution	Lonsdale Street	No. 100 - Senior Citizens	100	100	100	100	100
Council Provided Institution	Pilleau St, Coleraine	No. 27 Tourist Centre	100	100	100	100	
Council Provided Institution	Simson St, Balmoral	No.5 Community Facility	100	100	100	100	100
Council Provided Institution	Brown Street	PAC	900	900	900	900	900
Council Provided Institution	Nth Boundary Road	Pedrina Pk(Hse,Toilet,Kiosk,Depot,C/Rooms)	600	600	600	600	600
Council Provided Institution	Lonsdale Street	Tourist Office	400	400	400	400	400
Gardens	Thompson Street	Botanic Gardens 1	100	100	100	100	100
Gardens	Thompson Street	Botanic Gardens 2	100	100	100	100	100
Gardens	Thompson Street	Botanic Gardens 3	100	100	100	100	100
Gardens	Thompson Street	Botanic Gardens 4	100	100	100	100	100
Gardens	Gray Street	Planter Boxes & Trees - Kennedy to Cox	2,100	2,100	2,100	2,100	2,100
Gardens	Thompson Street	Planter Boxes & Trees - Lonsdale to French	1,600	1,600	1,600	1,600	1,600
Other (no description)	Henty St, Coleraine	No. 16 Karingal	100	100	100	100	100
Other (no description)	Barker St, Cavendish	Unclassified Building	100	100	100	100	100
Public Open Space	Melville Oval	off Thompson (Fountain)	100	100	100	100	100
Public Open Space	Showgrounds	off Park St	2,000	2,000	2,000	2,000	2,000
Public Open Space	Lake Hamilton	Beach Area	1,540	1,540	1,540	1,540	1,540
Public Open Space	Lake Hamilton	Boat Ramp	1,392	1,392	1,392	1,392	1,392
Public Open Space	Lonsdale Street	Lawns - Thompson to Scoresby 1	330	330	330	330	330
Public Open Space	Lonsdale Street	Lawns - Thompson to Scoresby 2	330	330	330	330	330
Public Open Space	Lonsdale Street	Lawns - Thompson to Scoresby 3	330	330	330	330	330
Public Open Space	Coleraine Road	Old Cemetery	100	100	100	100	100
Public Open Space	Cox Street	Park - Clarendon Cnr	273	273	273	273	273

Southern Grampians Water Use			Annnual Volume (kL)				
Category	**Street**	**Description**	**2001/02**	**20002/03**	**2003/04**	**2004/05**	**2005/06**
Public Open Space	Cox/French	Park - Opp. P/W's	620	620	620	620	620
Public Open Space	Gray Street	Post Office Lawns	328	328	328	328	328
Public Open Space	Apex Drive	River Frontage - East Side	100	100	100	100	100
Public Open Space	Dickens Street	Victory Park					
Public Toilet	Melville Oval	Melville Oval - toilet	400	400	400	400	400
Public Toilet	Nth Boundary Road	Pedrina Park Toilet Block	400	400	400	400	400
Public Toilet	Brown Street	Toilet Block - Behind National Bank	600	600	600	600	600
Road Reserve	Ballarat Road	Overpass - East Side	100	100	100	100	100
Road Reserve	Ballarat Road	Overpass - West Side	100	100	100	100	100
Road Reserve	Coleraine/Mt. Baimbrid	Roundabout 1	990	990	990	990	990
Road Reserve	Cox/Gray	Roundabout 2	100	100	100	100	100
Road Reserve	Kent/Bree	Roundabout 3	100	100	100	100	100
Road Reserve	Victoria/Tyers	Roundabout 4	100	100	100	100	100
Road Reserve	Alexandra Parade	Roundabout - Horwitz St (Fire Station)	100	100	100	100	100
Road Reserve	Martin St, Penshurst	Roundabout at Cnr Hamilton Highway	400	400	400	400	400
Saleyards	Beath Street	Saleyards Paddock	100	100	100	100	100
Sporting Ground	Coleraine/Mt. Baimbrid	Uren Park (Cnr Coleraine/Mt Baimbridge)	100	100	100	100	100
Sporting Ground	Martin Street	Victoria Park	100	100	100	100	100
Council Depot	33 Harrow Road	Patrol Depot					9
Council Depot	Cadden Street	Vacant Depot Site					8
Council Provided Institution	Scott Street	War Memorial Site					348
Other (no description)	Scott Street						450
Council Depot	40 Robertson Street	Works Depot					126
Council Depot	Robertson Street	Refuse Transfer Station					8
Council Provided Institution	27 Pilleau Street	Tourist & Exhib Ctr & Comm Parkland					43
Council Provided Institution	Parker Street	Visitor Information Centre					966
Council Depot	17-19 Parker Street	Old Shire Depot					30
Public Toilet	Parker Street	Park/Toilets					1170
Other (no description)	Parker Street	Parker Street (Pub Corner)					0
Council Provided Institution	Henry Street	Infant Welfare & Pre-School					7
Council Depot	Thomson Street	Works Depot					14
Sporting Ground	Memorial Road	Recreation Reserve					31
Sporting Ground	Memorial Road	Recreation Reserve					26

Southern Grampians Water Use			Annnual Volume (kL)				
Category	**Street**	**Description**	**2001/02**	**20002/03**	**2003/04**	**2004/05**	**2005/06**
Sporting Ground	Memorial Road	Recreation Reserve					131
Council Provided Institution	Elijah Street	New Pound Site					92
Saleyards	Portland Road	Saleyards					2218
Public Open Space	Holden Street	Apex Park					97
Public Open Space	Holden Street	Apex Park					482
Council Building	117 Brown Street	Economic Development Office					434
Public Open Space	French Street	Botanical Gardens					5215
Public Open Space	French Street	Botanical Gardens					664
Sporting Ground	Lonsdale Street	Melville Oval					9013
Public Open Space	Portland Road	Grangeburn Vacant Land					0
Clubrooms and Sporting Complexes	Gordon Street	Leisure Centre					101
Public Open Space	Condon Court	Recreation Reserve					0
Public Open Space	Ballarat Road	Lake Ham Reserve/Skate Park					1525
Public Open Space	Mt Napier Rd	Mitchell Park					403
Public Open Space	11 Duke Avenue	Playground					0
Council Depot	Elijah Street	Landfill Site					113
Saleyards	Portland Road	Saleyards No.2 Truck wash					119
Council Provided Institution	Shire/Hall Depot	Shire Hall/Depot					1394
Road Reserve	Lonsdale/Thompson	Lonsdale/Thompson St R-About					159
Road Reserve	Brown St/French St I	Brown St/Frech St Roundabout					24
Road Reserve	Cox Street	Cox Street (Cnr Lonsdale St) Hamilton					107
Road Reserve	Martin Street	Martin Street					816
Road Reserve	Mt Baimbridge Road	Farmland 33.387 Hectares					0
Road Reserve	Ballarat Road	Median Strip					630
Road Reserve	Ballarat Road	Median Strip					1132
Road Reserve	Ballarat Road	Median Strip					883
Road Reserve	Ballarat Road	Median Strip					665
Road Reserve	Glendinning Street	Vacant Land					722
Public Open Space	Victoria Street	Patterson Park					46
Council Provided Institution	Hensley-Park Rd	Main Line Aerodrome					1062
Council Depot	65 Cobb Street	Depot					90
Council Depot	Cox Street	Cattle Pound					26
Gardens	Martin Street	Park & Recreation Reserve					762
Council Provided Institution	98 Watton Stret	Infant Welfare Centre					1124

Southern Grampians Water Use			Annnual Volume (kL)				
Category	**Street**	**Description**	**2001/02**	**20002/03**	**2003/04**	**2004/05**	**2005/06**
Council Provided Institution	98 Watton Stret	Infant Welfare Centre					1035
Public Open Space	French Street	Recreation Reserve					131
Road Reserve	Bell Street	Roundabout					326
Road Reserve	French Street						0
Swimming Pool	101 Pilleau Street	Swimming Pool					434
Clubrooms and Sporting Complexes	Turnbull Street	Turnbull Street Reserve					0
Council Provided Institution	71 Whyte Street	Former Shire Office & Town Square					726
Swimming Pool	Parker Street	Swimming Pool					2108
Council Provided Institution	68-70 Wills Court	Pre School & Kindergarten					61
Gardens	Memorial Road	Memorial Park					152
Swimming Pool	Hamilton Place	Swimming Pool & Rec Reserve					2679
Council Provided Institution	Bell Street	Senior Citizens Centre					195
Caravan Park	Cox Street	Caravan Park					10
Road Reserve	Henty Highway	Witton Park					391
	Unmetered data		21,303	21,303	21,303	21,303	21,203
Totals	**Metered and unmetered data**						62,936

Water consumption by metered assets connected to the Hamilton Old Resevoir from 1997 to 2003

	Hamilton Showgrounds							
	Charge	Date	Reading	Usage / year	Cost	Days	kL / day	$ / day
	$ 0.43	01-Jul-97	35,595					
	$ 0.43	15-Jul-98	39,988	4,393	$ 1,888.99	379	11.59	$ 4.98
	$ 0.43	15-Jul-99	41,828	1,840	$ 791.20	365	5.04	$ 2.17
	$ 0.43	29-Jun-00	42,460	632	$ 271.76	350	1.81	$ 0.78
	$ 0.43	21-Jun-01	42,460	-	$ -	357	0	$ -
	$ 0.43	28-Jun-02	42,460	-	$ -	372	0	$ -
	$ 0.47	25-Jun-03	42,638	178	$ 83.47	362	0.49	$ 0.23
AVG	$ 0.44			1,174	$ 505.90	364	3.15	$ 1.36

	Melville Oval							
	Charge	Date	Reading	Usage / year	Cost	Days	kL / day	$ / day
	$ 0.43	01-Jul-97	119,064					
	$ 0.43	15-Jul-98	128,081	9,017	$ 3,877.31	379	23.79	$ 4.98
	$ 0.43	15-Jul-99	136,315	8,234	$ 3,540.62	365	22.56	$ 2.17
	$ 0.43	29-Jun-00	141,789	5,474	$ 2,353.82	350	15.64	$ 0.78
	$ 0.43	21-Jun-01	148,626	6,837	$ 2,939.91	357	19.15	$ -
	$ 0.43	28-Jun-02	153,682	5,056	$ 2,174.08	372	13.59	$ -
	$ 0.47	25-Jun-03	158,509	4,827	$ 2,268.69	362	13.33	$ 0.23
AVG	$ 0.44			6,574	$ 2,589.07	364	18.01	$ 1.36

	Hamilton College							
	Charge	Date	Reading	Usage / year	Cost	Days	kL / day	$ / day
	$ 0.43	01-Jul-97	12,017					
	$ 0.43	15-Jul-98	16,320	4,303	$ 1,850.29	379	11.35	$ 4.88
	$ 0.43	15-Jul-99	19,783	3,463	$ 1,489.09	365	9.49	$ 4.08
	$ 0.43	29-Jun-00	21,059	1,276	$ 548.68	350	3.65	$ 1.57
	$ 0.43	21-Jun-01	25,487	4,428	$ 1,904.04	357	12.40	$ 5.33
	$ 0.43	28-Jun-02	27,858	2,371	$ 1,019.53	372	6.37	$ 2.74
	$ 0.47	25-Jun-03	30,425	2,567	$ 1,206.68	362	7.09	$ 3.33
AVG	$ 0.44			3,068	$ 1,136.39	364	8.39	$ 3.66

	Hamilton Botanic Gardens							
	Charge	Date	Reading	Usage / year	Cost	Days	kL / day	$ / day
	$ 0.43	01-Jul-97	128,609					
	$ 0.43	15-Jul-98	140,752	12,143	$ 5,221.49	379	32.04	$ 13.78
	$ 0.43	15-Jul-99	149,084	8,332	$ 3,582.76	365	22.83	$ 9.82
	$ 0.43	29-Jun-00	154,799	5,715	$ 2,457.45	350	16.33	$ 7.02
	$ 0.43	21-Jun-01	165,550	10,751	$ 4,622.93	357	30.11	$ 12.95
	$ 0.43	28-Jun-02	173,361	7,811	$ 3,358.73	372	21.00	$ 9.03
	$ 0.47	25-Jun-03	182,275	8,914	$ 4,189.72	362	24.63	$ 11.57
AVG	$ 0.44			8,944	$ 3,905.50	364	24.49	$ 10.70

	Pedrina Park							
	Charge	Date	Reading	Usage / year	Cost	Days	kL / day	$ / day
	$ 0.43	01-Jul-97	244,005					
	$ 0.43	15-Jul-98	263,698	19,693	$ 8,467.99	379	51.96	$ 22.34
	$ 0.43	15-Jul-99	270,321	6,623	$ 2,847.89	365	18.15	$ 7.80
	$ 0.43	29-Jun-00	278,871	8,550	$ 3,676.50	350	24.43	$ 10.50
	$ 0.43	21-Jun-01	291,651	12,780	$ 5,495.40	357	35.80	$ 15.39
	$ 0.43	28-Jun-02	296,398	4,747	$ 2,041.21	372	12.76	$ 5.49
	$ 0.47	25-Jun-03	303,912	7,514	$ 3,531.72	362	20.76	$ 9.76
AVG	$ 0.44			9,985	$ 4,343.45	364	27.31	$ 11.88