

DRAFT STRATEGY FOR
PUBLIC EXHIBITION
South Gippsland Shire Council
Waste Management Strategy 2011 – 2021

Prepared For

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Rev. no.	Document purpose	Project Scientist(s)	Reviewer	Approved by	Approved for issue	
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EXECUTIVE SUMMARY

South Gippsland Shire Council (Council) has created this *Waste Management Strategy (WMS)* as part of its commitment to provide sustainable solutions to the reduction, collection, resource recovery from and disposal of waste. The WMS describes strategies and actions to be undertaken by Council over the next ten years (2011 – 2021) and its key aim is to guide the development and improvement of current waste management practices.

The future directions of waste management within this Shire need to adhere to the guiding principles of Council, its people and businesses. Furthermore, any strategy needs to be consistent and work towards Gippsland Regional Waste Management Group and Victorian policies and strategies as a whole. As such, the key drivers for this strategy are:

- Optimising service provision to the residents and rate payers of South Gippsland;
- Compliance with environmental, OHS and any other applicable legislation;
- Providing a high level of environmental protection;
- Ensuring financial sustainability of the practices utilised, where the cost of waste management is not overly onerous to the rate payer and is directly accounted for through waste charges;
- Supporting government policies and commitments relating to the targets set down in the *Towards Zero Waste Strategy*¹;

The management of waste is a major component of Council's annual budget. The services include kerbside garbage and recyclables collection and disposal, transfer station provision and operation, street litter bins, landfill and waste education.

This WMS provides a structure for waste management to be operated in an appropriate and transparent manner. It identifies a range of methods and opportunities for Council to enhance its service provision, increase diversion of waste from landfill and improve environmental protection, whilst maintaining a cost effective waste management system.

Review of the current waste management system and predictions for future waste management requirements were used as a basis for identifying key issues and opportunities for Council over the next 10 years and beyond.

The key focus areas within this strategy are:

- current and future waste management contracts;
- kerbside collection systems and areas;
- transfer station management and infrastructure;
- organic waste treatment options for South Gippsland;
- provision of Public Place Recycling;
- creation of a littering and illegal dumping plan;
- review of waste education provision;
- outline of a foundation for an enforcement plan; and
- support for community actions to reduce waste to landfill.

¹ Sustainability in Action: Towards Zero Waste Strategy, Victorian government 2005

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List of Acronyms used

AWT	Advanced Waste Treatment
C&D	Construction and Demolition (waste)
C&I	Commercial and Industrial (waste)
DSE	Department of Sustainability and Environment (Victoria)
Hh	Household (as in per Household)
EPA	Environment Protection Authority Victoria
GRWVG	Gippsland Regional Waste Management Group
MRF	Materials Recovery Facility
MSW	Municipal Solid Waste
PLB	Public Litter Bin
PPR	Public Place Recycling
pP	per Person or Resident
SV	Sustainability Victoria
TS	Transfer Station
TZW	Towards Zero Waste
VLAA	Victorian Litter Action Alliance
WMS	Waste Management Strategy

1. Introduction

1.1. Purpose

The *Waste Management Strategy* (WMS) presents South Gippsland Shire Council's (Council) 10 year strategy for waste management from 2011 to 2021. This WMS advances and updates the previous 2007 *South Gippsland Shire Council Waste Management Strategy & Implementation Plan*.

It has been developed as part of the commitment Council has made to provide sustainable solutions for the collection, disposal and resource recovery from waste generated within our community. Sustainable approaches to waste management need to be integrated into future policies, strategies and planning decisions made by Council.

The WMS describes plans, strategies and measurable actions to be undertaken by Council over the next ten years (2011 – 2021) with the aim of guiding the development and improvement of current waste management practices. With a commitment to preserve the social, environmental and economic integrity of the region, Council aims to reduce both the generation and the environmental impact of waste and move South Gippsland towards sustainable, best practice waste management performance.

The future directions of waste management within the Shire need to adhere to the guiding principles of Council, its people and businesses. These principles are set out in the Vision 2020, Council Plan and Long Term Financial Strategy. Of particular relevance is Council's Pricing Policy, as set out in the Council Plan. Furthermore any Council strategy needs to be consistent and work towards Gippsland region, Victorian and Federal policies and strategies as a whole. As such, the key drivers for this strategy are:

- optimising service provision to the rate payers of South Gippsland;
- compliance with environmental, work safe and any other applicable legislation;
- provision of a high level of environmental protection;
- ensuring financial sustainability of the systems utilised, where the cost of waste management is not overly onerous to the rate payer and is directly accounted for through waste charges;
- supporting State Government policies relating to the *Towards Zero Waste strategy* and targets;
- Gippsland Regional Waste Management Group (GRWVG) policies and targets;
- the need to deal with the projected population increases and economic growth, in terms of sustainable outcomes for waste and materials recovery; and
- conserving airspace at the Koonwarra landfill to ensure necessary longevity of use.

The management of waste including the Koonwarra landfill, six transfer stations, kerbside collection and disposal, public litterbins, street sweeping and other waste clearance activities accounts for over \$2.9 million of Council's annual budget.

The WMS provides a structure for waste management to be supervised in an appropriate and transparent manner, which includes the mitigation of risks where possible. Risks are either current risks or legacy risks arising from the decisions Council makes regarding waste infrastructure and services provided in South Gippsland currently and into the future.

The key risk groups can be categorised as:

- financial risk whereby an action has a higher cost or un-foreseen cost to South Gippsland
- legal risk whereby decisions are in contravention of current legislation or of potential future legislation;
- social risk that decisions made by Council do not adhere to what residents want and as such need to be amended; and
- environmental risk from decisions that do not protect the environment and cause short or long term degradation of the water or land.

1.2. Overview of the Shire

South Gippsland Shire covers an area of 3,280 km² with an estimated population of 27,370 in 2010². It is rich in resources and has a thriving range of commercial enterprises and small businesses. Economic development is strong in the industries of dairying, horticulture, forestry, fishing, boutique food and wine, retail trade, manufacturing and tourism. South Gippsland includes prominent tourist sites such as the Wilsons Promontory National Park, Agnes Falls and the Coal Creek Community Park and Museum. See Appendix A for maps of South Gippsland.

1.3. Local Population Characteristics

The major centres of population include Leongatha, Korumburra, Mirboo North and Foster. Other significant townships include Nyora, Toora, Venus Bay, Sandy Point, Poowong, Port Welshpool, Loch, Dumbalk, Welshpool, Meeniyan, Fish Creek and Tarwin Lower.

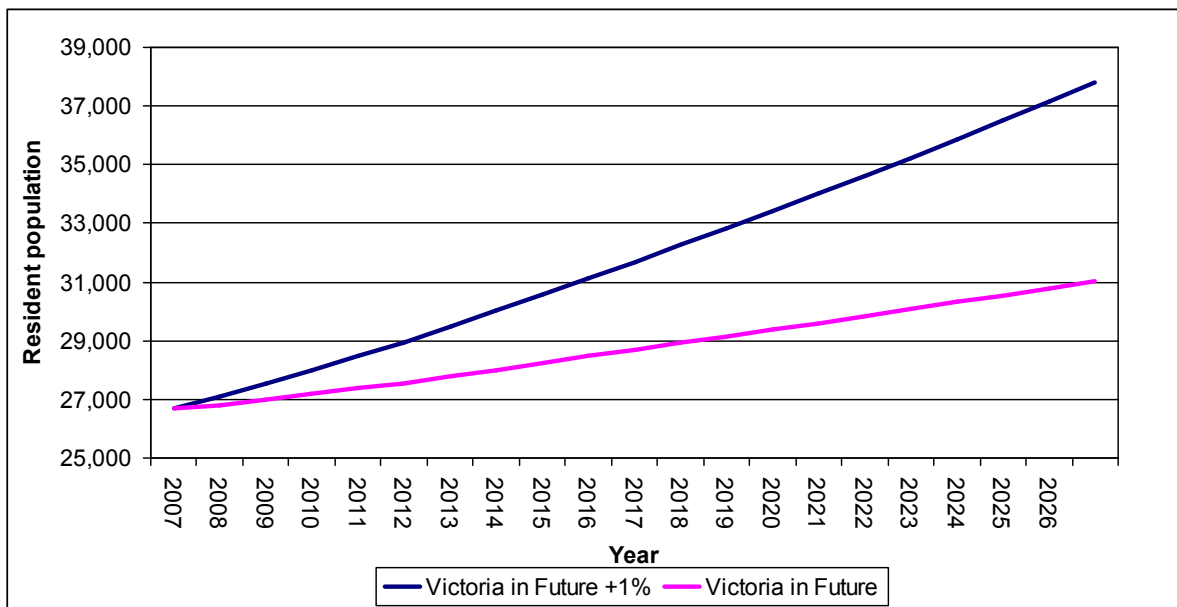
Population predictions are an integral part of estimating future waste generation rates, as they provide an indication of the number of persons generating waste. Population figures can also be used to derive an indication of predicted households in the future, providing Council with an indication of the number of properties that will need waste management services in the future.

The forecasts used in this WMS are taken from the *Victoria in Future* (ViF) predictions³, however, it may be that the figures for the Gippsland region as a whole are too conservative. The implications of ViF population growth and growth 1% above ViF predictions for South Gippsland are shown in Figure 1 below. The ViF plus 1% has been provided as an indication of the implications of a higher than predicted growth for South Gippsland's population; it is not provided as an alternative population growth prediction.

² Figures from Victoria in Future predictions <http://tinyurl.com/DSEdata>

³ It should be noted that there is some speculation that the Victoria in Future figures are too conservative.

Figure 1: Predicted population growth in South Gippsland



The WMS uses the ViF predictions provided by the State government. The number of households in South Gippsland has been calculated using the population prediction divided by the predicted average Regional household size. The higher growth rate in households compared to population is due to a reduction in the number of people per household with an estimated 2.44 people per household in 2006 falling to 2.30 people per household by 2021.

Table 1: Population and household predictions for South Gippsland

	2006 (last census)		2011		2021	
	Population (Pop)	Household (Hh)	Pop	Hh	Pop	Hh
Number	26,675	10,936	27,545	11,517	29,831	12,958
Growth (from 2006)	-	-	3%	5%	12%	18%

When considering future waste management and population it is important to take into account that South Gippsland has a high tourism population with an estimated 5 million tourist nights spent in the Shire. Furthermore there are a significant number of second homes or holiday homes in South Gippsland. This will impact waste management infrastructure and services Council provides and may cause a further reduction in the average household size in the Shire.

1.4. Key Issues

The key issues identified for review included:

- the current kerbside collection system to ensure best value principles;
- introduction of kerbside waste collections to areas that do not currently receive one;
- waste service provisions to areas of high tourism during peak season;
- introduction of a kerbside green waste collection service;
- organics waste treatment by Council or regionally;
- electronic waste (E-waste) provisions by Council;
- transfer stations design and operations;
- Koonwarra landfill and the whole of life cost of landfilling waste. Including landfill engineering, monitoring, operation and future rehabilitation;
- provision of hard waste collection services;
- analysis of the waste generation rates over the life of this WMS;
- cost implications for Council and its waste management infrastructure from predicted waste generation rates; and
- support for community actions to reduce waste to landfill.

1.5. The Previous 2007 Waste Management Strategy

The previous WMS was adopted by Council on 19 December 2007. The document is very operationally focused and contains little in the way of strategic direction for waste management in South Gippsland. The new WMS will focus more on strategic issues and opportunities and less on matters associated with the day to day provision of waste management services.

Within the 2007 WMS is an implementation plan, containing a series of strategic actions for implementation as part of the Strategy. A copy of the actions is provided in Appendix B. Of the 34 actions listed in the Implementation Plan 31 have been completed or are ongoing operational activities. The actions that have not been completed; along with many of the ongoing activities, have resource (human resource and financial) implications associated with their implementation.

2. Strategic Framework

2.1. Strategic Context

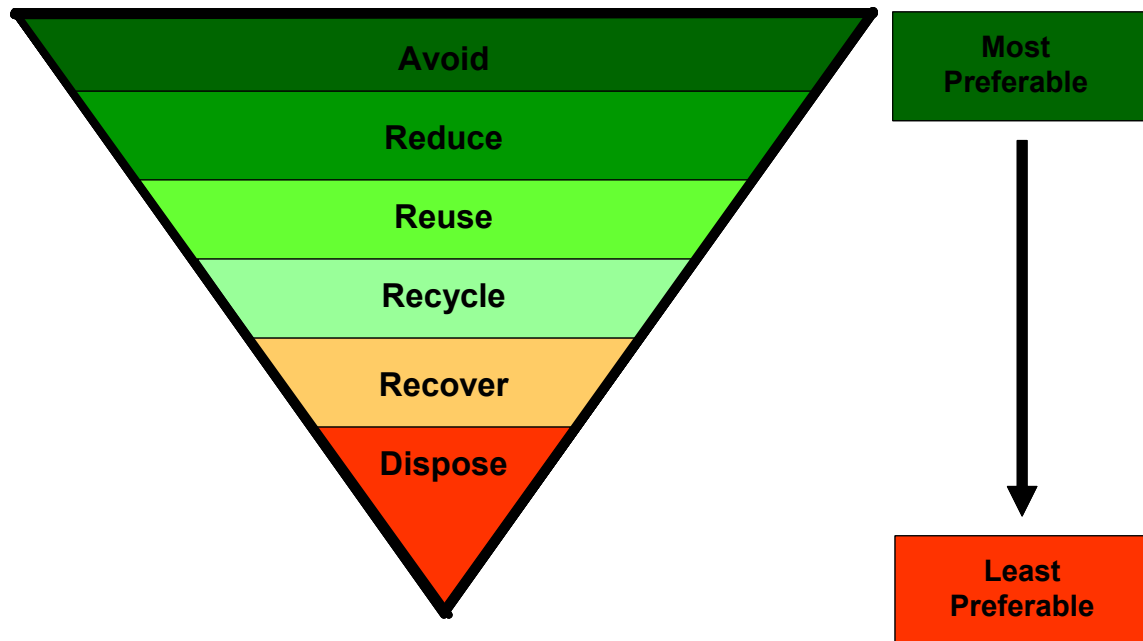
The WMS has been developed in line with relevant legislation and policies that have been developed at the Federal, State, Regional and Council level. Figure 2 below illustrates how the legislation, policies and strategic plans by various agencies of government are considered and integrated within this WMS.

Figure 2: Interlinking of legislation, policies and plans



The key principle underpinning the waste management strategy is the waste management hierarchy, which was disseminated under the Environmental Protection Act 1970. The waste management hierarchy, shown in Figure 3, places waste avoidance as the most preferred option and waste disposal as the least preferred. Waste policies developed by all levels of government are based on this principle.

Figure 3: Waste management hierarchy



2.2. Significant Federal and State legislation and policies

Key legislation and policies of the different levels of government, which are detailed further in Appendix C, include, but are not limited to:

2.2.1. Federal Government

The National Waste Policy⁴ – That was endorsed by the Environment Protection and Heritage Council on 5 July 2010 sets the direction for Australia over the next 10 years to produce less waste for disposal and manage waste as a resource to deliver economic, environmental and social benefits.

National Initiatives - Australian Packaging Covenant⁵ (APC) – The APC was endorsed by all parties in 2010 and replaces the previous National Packaging Covenant. The APC is a voluntary initiative by government and industry to reduce the effects of packaging on the environment. The key target of the APC is to achieve a recycling target of 65% for packaging and no further increases in packaging waste disposed to landfill by the end of 2010.

National initiatives – National Television and Computer Product Stewardship Scheme⁶
At the Environment Protection and Heritage Council (EPHC) meeting on 5 November 2009, Environment Ministers' agreed, following consideration of a regulatory impact statement, that the Australian Government would, under the new product stewardship legislation,

⁴ <http://www.environment.gov.au/settlements/waste/publications/pubs/fs-national-waste-policy.pdf>

⁵ www.packagingcovenant.org.au

⁶ <http://www.environment.gov.au/settlements/waste/ewaste/>

implement regulation to support an industry-led scheme that will collect and recycle end of life televisions and computers.

2.2.2. State of Victoria

Towards Zero Waste Strategy 2005 (TZW)⁷ –The TZW is currently under review. The objectives of the current TZW strategy are to reduce and recover solid waste and to reduce the environmentally damaging impacts of waste.

The three key targets of the TZW strategy are:

- **Reduce** the amount of solid waste generated by 1.5 million tonnes per annum by 2014, compared to 2002/03.
- Increase the **recovery** rate in all solid waste generated from the 48% in 2003 to 75% by 2014 comprising:
 - 65% recovery rate (by weight) of MSW for reuse and recycling by 2014. With a 2008-09 interim target of 45% recovery rate;
 - 80% recovery (by weight) of Commercial and Industrial (C&I) waste for reuse and recycling by 2014. With a 2008-09 interim target of 65%; and
 - 80% recovery rate (by weight) of Construction and Demolition (C&D) waste for reuse and recycling by 2014. With a 2008-09 interim target of 65%.
- 25% reduction in littering behaviour compared with 2003 levels.

Victorian Litter Strategy – Creating Cleaner, Safer Places⁸ – strategy to prevent litter and improve litter management practices to meet the TZW littering behaviour target and achieve clean and safe public places.

Industrial Waste Management Policies (IWMPs)⁹ - introduced in 2002 to the Environment Protection Act 1970 the Environment Protection (Resource Efficiency) Act provided the EPA with the scope to develop waste management policies (WMPs). This change means that policies that deal with municipal waste can also be developed, thereby complementing existing arrangements and ensuring that a comprehensive framework of statutory policy can be maintained and strengthened.

Victorian EPA Landfill Levies¹⁰ – Victorian Landfill levies are set to increase steadily to \$26.60 per tonne for Municipal Solid Waste (MSW) in rural locations by 2014/15. Table 2 below provides the landfill levies proposed until 2014/15.

Table 2: Summary of proposed Victorian landfill levies 2010 -2015

Levy	Year				
	2010/11	2011/12	2012/13	2013/14	2014/15
Rural municipal levy	\$15	\$20	\$22	\$24.2	\$26.6
Rural industrial levy	\$25	\$35	\$38.5	\$42.4	\$46.6

⁷ <http://www.sustainability.vic.gov.au>

⁸ <http://www.sustainability.vic.gov.au>

⁹ <http://www.epa.vic.gov.au>

¹⁰ <http://www.epa.vic.gov.au>

Other waste issues or initiatives include, but are not limited to:

- EPA Victoria guidelines and policy initiatives;
- product stewardship programs;
- contaminated soils and hazardous waste initiatives; and
- occupational health and safety, Worksafe Victoria guidelines and standards.

2.3. Gippsland Regional Waste Management Group

2.3.1. DRAFT Gippsland Regional Waste Management Plan 2007 ¹¹

GRWMG encompasses the municipalities of Bass Coast, Baw Baw, East Gippsland, Latrobe, South Gippsland and Wellington. The region serviced by the Group extends from Phillip Island to Mallacoota, an area of some 40,000 km² with a population of almost 250,000 people.

In 2007 GRWMG published the ***DRAFT Gippsland Regional Waste Management Plan 2007*** to provide a clear strategy for the waste management group going forward. The plan identifies a range of actions for Councils within Gippsland to strive to achieve over a ten year period (by 2017) including:

- endeavouring to operate best practice compliant facilities;
- endeavouring to divert the following materials from landfill:
 - Paper/cardboard;
 - Clean soil (except when used for cover material);
 - Metals;
 - Green waste;
 - Plastics code 1-5;
 - Tyres;
 - Timber and sawdust (except chemically treated material);
 - Concrete; and
 - Electronic waste (e-waste).
- public place recycling in place at all high visitation locations;
- the amount of garbage generated per household per year to be 250kg compared with 398kg in the year 2005/06;
- the amount of solid waste recovered for further use to be 64% in comparison to 39.5% in the year 2005/06;
- recycling bin contamination will be less than 5%;
- reduce litter by 25% through improvement in littering behaviour, which includes litter reduction, prevention and behaviour change; and
- all significant event venues, all state and local government offices, 40% of schools and 10% of small businesses will be certified as 'waste wise'.

¹¹ Meinhardt Infrastructure & environment "Gippsland Regional Waste Management Plan 2007" Sept 2007

2.3.2. GRWMG DRAFT Business Plan 2010-11 to 2012-13

The GRWMG DRAFT Business Plan (the Plan) demonstrates how regional staff, in partnership with council officers and government agencies will work together to give effect to the State Government's policies, strategies and programs in Gippsland. The Plan identifies the reduction of waste to landfill and increasing resource recovery will be achieved through:

- improving municipal services and facilities to achieve best practice;
- increasing resource efficient behaviours through community engagement; and
- effective organisational systems that provide data for strategic planning and the monitoring of programs.

The Plan identifies a range of performance targets for waste reduction, resource recovery and litter reduction for each council within the GRWMG. The document then further outlines a range of programs that GRWMG will undertake to facilitate its member councils achieving the targets identified.

Programs identified within the Plan include:

- municipal services and facilities program;
- community engagement program;
- strategy and performance monitoring program;
- organisational systems and operations program; and
- public affairs and communications.

2.4. South Gippsland Shire Council

Council's key strategic documents are Vision 2020, the Council Plan 2010-2014 and the South Gippsland Sustainability Strategy. These identify the community's ongoing interest in council activities and decision making processes.

2.4.1. Vision 2020¹²

The development of Vision 2020, the community vision for the South Gippsland Shire, was facilitated by Council in consultation with local communities; it represents the aspirations of South Gippsland communities for the year 2020. The vision aspires to a number of key outcomes with the aim of creating South Gippsland into a place which has, amongst others:

- appropriate infrastructure to meet community needs;
- respect for the environment by being clean and green;
- sustainable economic growth; and
- a sustainable agricultural industry, including direct and indirect support businesses.

2.4.2. Council Plan 2010-2014

The Council Plan 2010-2014 includes the mission:

"To effectively plan and provide for the social, built, economic and natural environments that ensure the future well-being of South Gippsland communities."

The plan distinguishes a number of strategies for achieving the key outcomes. In particular, the outcome of 'Resource efficiency' aims to:

- promote waste reduction, sustainable resource use and increased uptake of recycling through community education;

¹² http://www.southgippsland.vic.gov.au/Page/Page.asp?Page_Id=101&p=1

- reduce greenhouse gas emissions and provide a framework for participation in carbon trading schemes;
- implement efficiency measures to reduce water use; and
- implement measures and programs to reduce waste and promote recycling.

A list of actions to reduce waste and promote recycling is also highlighted within the Plan including:

- upgrading of street litterbin infrastructure;
- expand kerbside recycling collection services to include plastics type 4 – 7 (this has been achieved);
- provision of additional collections over summer at Waratah Bay (this has been achieved);
- investigation into the provision of kerbside collections at Venus Bay;
- investigation of the introduction of kerbside green waste collection services in areas currently serviced.

2.4.3. South Gippsland Sustainability Strategy DRAFT – 2010

The South Gippsland Sustainability Strategy was developed in conformity with the Victorian Local Sustainability Accord to which Council is a signatory. The Sustainability Strategy is a strategy for both Council and the Shire as a whole, containing a broad focus and pursuing a best practice approach by looking at the various dimensions of sustainable living including environmental, social and economic aspects.

The strategy identifies key challenges and opportunities for South Gippsland, including:

- moving towards zero waste with maximum recycling;
- setting realistic and affordable targets, given limited resources;
- to increase resource efficiency (water, energy fuel) and reduce green house gases;
- expanding waste services including recycling, public place recycling, composting of green waste

Further detail is provided with specific items and timelines provided, including:

- **1.3.4** Promoting towards zero waste policies through charging policies, public education and other strategies to recycle and minimise waste. To be done in / by 2011.
- **1.3.5** Bio-composting of household green and putrescible waste to generate Grade A compost and reduce greenhouse gas emissions in compliance with legal requirements. To be done in / by 2012.
- **1.3.6** Investigate the inclusion of small to medium enterprises in kerbside collection of recyclables. To be done in / by 2011.
- **1.3.7** Investigate Bio-composting of organic and greenwaste from restaurants, supermarkets and other businesses in compliance with legal requirements. Cost of EPA regulation to be considered. To be done in / by 2011.
- **1.3.8** Establish recycling bins in public places and a recycling strategy. To be done in / by 2013.
- **2.1.2** Education program for all communities to promote best practice in waste management recycling, waste reduction and minimising stormwater pollution. Ongoing.

2.4.4. Waste Education

Council employs a Waste Management co-ordinator who is tasked with the provision of waste education throughout the Shire and in supporting the GRWMG where practicable.

Council encourages community support for waste minimisation by providing relevant information, resources and educational opportunities and works in conjunction with the GRWMG Education Officers to promote Waste Wise education programs within the community. The key messages and issues for education programs identified are waste reduction, available recycling services, home composting, recycling for tourists and litter prevention.

Examples of waste education supported by Council include:

- Clean Up Australia Day;
- Keep Australia Beautiful Tidy Towns/Rural Pride Programs;
- Support of various community groups;
- Waste Wise Schools (now the AUSSI Schools) Program;
- DrumMuster; and
- Chemical Collection Program.

Council is an active member in the GRWMG Educational Steering Committee and fully supports projects co-ordinated through the GRWMG that address education, such as the recent “*Get it sorted*” campaign.

3. Current Waste Management

3.1. Introduction to Waste Management Operations

Council provides approximately 75% of residences with a kerbside collection service. Council charged households \$198.00 in 2010/11 for the provision of a domestic kerbside collection service. In Sandy Point and Waratah Bay this charge was \$205.40 and \$238.40, respectively to allow for additional recycling collection services during busy summer months.

Large families are able to obtain an additional 120 litre (L) bin at an additional cost, proportional to the first service charge. Commercial premises are charged either \$198.00 for two 240L recycling bins on a fortnightly collection or \$287.00 for weekly 240L garbage and a fortnightly 240L recyclables collection. Additionally, in 2010/11 all rateable properties were charged \$20 to cover the shortfall of waste management service costs in that financial year.

Council also provides other waste management services and infrastructure including:

- six waste transfer stations for public and commercial users;
- public litter bins across the Shire;
- street sweeping services; and
- a landfill for commercial and Council use.

Full details of these facilities are provided below.

The material that is collected by Council is treated or disposed of by five routes:

- kerbside recyclables are sent to a Materials Recovery Facility (MRF) in either Springvale or Morwell;
- transfer station segregated recyclables are sent directly to recyclers or are consolidated before transportation by the transfer station contractor;
- green waste is mulched at the transfer stations and sold to the public or used in landfill operations;
- excess green waste mulch is taken to Dutson Downs Soil and Organic Recycling Facility ; and
- municipal solid waste (garbage) is disposed at Koonwarra landfill.

Each household in South Gippsland Shire generates slightly more waste (485 kg) than the state average¹³ (472 kg) per annum. South Gippsland achieves a kerbside landfill diversion rate of 31%. This is then augmented by a transfer station landfill diversion rate of 56% (including green waste diversion). If the kerbside and transfer station waste is combined then Council achieves a total landfill diversion rate of 45%.

The State average for kerbside diversion is currently 43%. This is due to a large number of councils providing a three bin kerbside collection system with garbage, recyclables and green waste collected separately. South Gippsland provides a two bin kerbside collection system and when compared to other councils that provide the same service, it achieves a good rate of diversion.

¹³ Sustainability Victoria Kerbside Services Data which can be found at: <http://www.sustainability.vic.gov.au>

Council would need to divert 20% more waste from landfill to achieve the 65% target recovery rate (by weight) of Municipal Solid Waste (MSW) for reuse and recycling by 2014 identified in the Towards Zero Waste strategy. It should be noted that this target is for the State as a whole and is not a requirement for South Gippsland.

3.1.1. Waste Collection Services

Information on the kerbside collection services provided to residential and non-residential properties by Council is provided in Table 3 below. Non-residential properties include schools, care facilities (elderly/child), council run facilities and small commercial properties (shops, offices etc).

Table 3: Current council waste services to residential and commercial properties 2009/10

Waste collection service	Type of container	Frequency	Type of waste materials and exclusions	Number of services
Municipal garbage	120L MGB	Weekly	All household waste, excluding hazardous waste such as asbestos, chemicals etc.	7,764
Municipal recycling	240L MGB	Fortnightly	Glass bottles and jars, Plastic (codes 1 to 7), Steel cans, Drink cartons, Empty aerosol cans, Aluminium cans, Clean aluminium foil and food trays, liquid paperboard (milk and juice containers), Newspapers, Magazines, Junk mail, Cardboard, Scrap paper	7,674
Commercial garbage	240L MGB	Weekly	All household waste, excluding hazardous waste such as asbestos, chemicals etc.	163
Commercial recycling	Two 240L MGB	Fortnightly	Glass bottles and jars, Plastic (codes 1 to 7), Steel cans, Drink cartons, Empty aerosol cans, Aluminium cans, Clean aluminium foil and food trays, liquid paperboard (milk and juice containers), Newspapers, Magazines, Junk mail, Cardboard, Scrap paper	711

3.1.2. Transfer Stations and Koonwarra landfill

Council maintains a variety of waste infrastructure to provide the public and businesses of South Gippsland with the ability to recycle or dispose of their waste. In total, Council operates six transfer stations located across the Shire. Access to Koonwarra landfill is limited to suitable vehicles that have a large enough volume of waste for disposal. A list of the facilities is shown in Table 4 below.

Table 4: Waste management facilities within South Gippsland Shire

Disposal facility	Wastes and Recyclables Accepted	
Koonwarra Landfill	<ul style="list-style-type: none"> - Domestic asbestos - Tree stumps - Domestic garbage - Commercial waste - Building waste 	<ul style="list-style-type: none"> - Industrial waste - Concrete (over 300mm) - Bricks (over 300mm) - Caravans (wooden or fibreglass vans)
Transfer stations: <ul style="list-style-type: none"> • Koonwarra • Korumburra • Foster • Mirboo North • Walkerville • Venus Bay 	Recyclables: <ul style="list-style-type: none"> - Paper/cardboard - Glass bottles and jars - Plastic bottles and containers (types 1, 2, 3 and 5) - Steel - White goods - Car batteries - Used motor oil – up to 20L (all except Walkerville) - Green waste - Farm chemical containers - Farm oil - 1 drum up to 200L (Koonwarra & Korumburra only) - Silage wrap (Koonwarra & Foster only) - Car bodies - Tyres 	Waste: <ul style="list-style-type: none"> - Domestic garbage - Furniture - Concrete (under 300mm) - Bricks (under 300mm) - Clean fill - Commercial wastes

3.1.3. Other Waste Collection Services

Council provides a range of other waste collection services within the Shire. Details of some services are provided in Table 5 below:

Table 5: Summary of other collection systems

Waste type	Type of service	Type of container	Frequency	Type of waste
Street sweeping	Scheduled	5m ³ Road Sweeper	Daily/weekly	Leaves/debris, road materials
Illegally dumped rubbish collection	Collection	n/a	as required	Various
284 Public Litter Bins (PLBs)	Collection	Various	Variable	All public waste.
Events (festivals, local markets, cultural/ community events etc.)	Waste trailer provision	7 x 240L MGBs for garbage and recyclables	When required	Bottles, cans, cardboard, etc.

The public is also provides with:

- cigarette butt bins;
- kitchen caddies (upon request) to transport food organics to a home compost bin; and
- Detox your home collections (in conjunction with Sustainability Victoria).

3.2. Current Council Waste Management Contracts

A summary of the current waste contracts managed by Council is provided in Table 6 below.

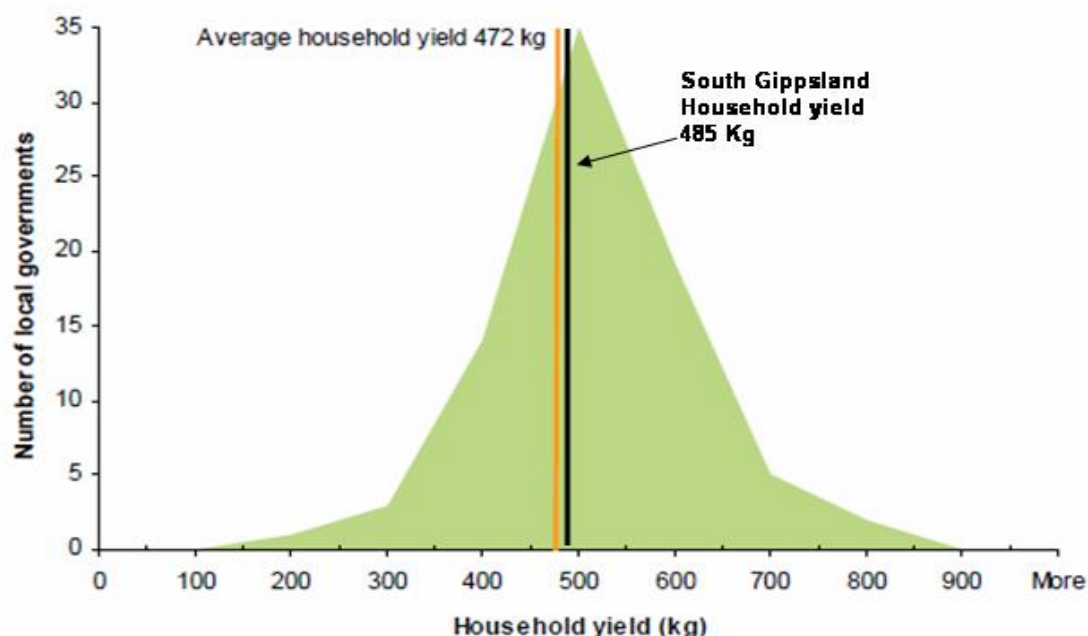
Table 6: Overview of Waste management contracts

Service/Facility	Contractor (or internal)	Address	Contract Expiration (plus extensions)
Residential and non-residential collections			
Kerbside garbage collection	Cleanaway	515-519 Princes Drive, Morwell	31/1/2011 (+ 2 x 1 year)
Kerbside recyclables			
Kerbside recyclables sorting service			
Landfill construction, operation and management	Gippsland Waste Services	106 Contour Road, Trafalgar	03/10/2017
Transfer station	Gippsland Waste Services	106 Contour Road, Trafalgar	31/1/2011 (+ 2 x 1 year)
Hard waste	Currently in tender	N/A	N/A
Other waste services			
Street and footpath sweeping and disposal	Internal	N/A	N/A
Dumped rubbish collection and disposal	Internal	N/A	N/A
Public Litter Bin collection and disposal	Country Cart Waste Disposal	Watson Rd, Leongatha	30/6/2010 (+ 2 x 1 year)

3.3. Garbage and Recycling Quantities

In 2009/10 financial year the average person in South Gippsland directly generated 699kg of waste of which 485kg was garbage and 214kg was recyclables, this does not include waste generated indirectly through the actions of the business community. The rate of garbage generation is slightly above the Victorian average, which is good considering Council operates a two bin kerbside collection system (garbage and recyclables) and not a three bin kerbside collection system (Green waste as well) like over 50 councils in Victoria.

Figure 4: Sustainability Victoria average household garbage yield 2008/09



The total quantities and composition of garbage and recyclable materials collected from across the Shire are detailed in Table 7 below.

Table 7: Quantities of municipal waste and recyclable materials collected in 2009/10

Waste Stream	Recycled (tonnes)	Garbage (tonnes)
Kerbside collected	1,638	3,939 + 91*
Transfer station	1,584	3,521
Transfer station green waste	2,931	-
Litter	-	269
Total	6,153	7,820
Percentage	44%	56%

Note:
 -All transfer station and green waste collection centre figures include business (generally small and medium enterprises) tonnages.
 -This table does not include garbage or recyclables direct from business users to landfill or recycling facility
 *Recyclables contamination to landfill (i.e material collected in the recyclables bin but is sent to landfill) based on assumed 5% contamination rate

3.3.1. Waste Projections

Projections have been made for the tonnages of waste arising in the Shire for 2015 and 2020 under two scenarios:

1. **No change**: which achieves the same diversion rate as 2010 over all years modelled;
2. **65% recycling**: where a 20% increase in total recycling is achieved. The 20% increase represents achieving TZW targets and the impact on garbage generation rates this would have.

The predicted tonnages are based on the following assumptions:

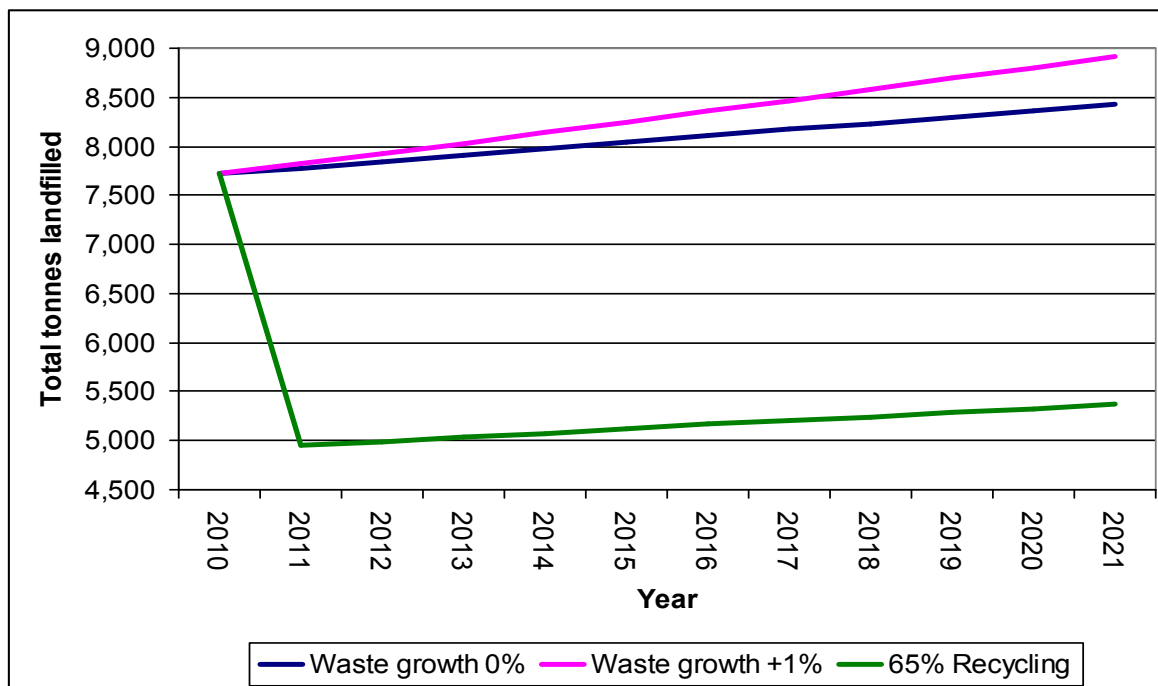
- there is no waste growth per person;
- growth in waste arising due to population growth;
- recyclables contamination has not been modelled and is contained in the recyclables figures; and
- modelled tonnages exclude materials that are not collected by Council, that is waste direct hauled to the landfill by business users.

Table 8: Projections for municipal waste and recyclables in South Gippsland

	2010 (Current)	2016 no change	2016 - 65% recycling	2021 no change	2021 - 65% recycling
Kerbside garbage	3,939	4,132	2,631	4,293	2,730
Kerbside recyclables	1,820	1,909	2,300	1,984	3,623
Transfer station garbage	3,521	3,693	2,332	3,838	2,441
Transfer station recyclables	1,584	1,661	2,002	1,726	3,152
Transfer station green waste	2,931	3,075	3,075	3,195	3,195
Kerbside green waste*	-	-	2,213	-	2,299
Hard waste 'at call' collections	-	12*	12*	13*	13*
Other garbage waste from Council collections	269+	282+	180+	293+	187+
Total	14,064	14,764	14,764	15,340	15,340
Diversion rate	45%	45%	65%	45%	65%
* To achieve 65% diversion a kerbside green waste collection will be required					
* Hard waste collection tonnages were estimated based on values of 0.4 kg per person per year.					

Figure 5 below provides an estimate of municipal waste tonnages for the Shire under a 'no change' and an 'increased recycling' scenario. The impact of increasing waste generation per person by 1% a year is also shown.

Figure 5: Predicted municipal waste to landfill 2010 – 2021 under different scenarios



3.3.2. Transfer Stations Reported Tonnages

Transfer station material throughputs based on figures provided for recyclables in 2009/10 are provided in Table 14 below.

Table 9: Tonnage of materials recycled at waste transfer stations 2009/10

Transfer station	Batteries ¹⁴ tonnes	Paper / cardboard tonnes	Glass tonnes	Plastic bottle tonnes	Steel tonnes	Used motor oil tonnes ¹⁵	Total tonnes
Foster	4.2	72.1	17.6	3.5	68	1.6	167.0
Koonwarra*	7.7	113.8	66.6	24.5	409	3.1	624.7
Korumburra	6.1	88.1	11.0	2.7	212	4.5	324.4
Mirboo North	2.6	44.6	15.2	1.6	170	1.7	235.7
Venus Bay	1.1	56.2	13.5	0.7	77	1.3	149.8
Walkerville	0.6	6.6	3.8	0.5	71	0.0	82.5
Total	22.3	381.3	127.2	33.5	1,006	13.5	1,583.8

Note: *Some materials consolidated at Koonwarra from other transfer stations

Transfer stations also collected 3,521 tonnes garbage and 2,931 tonnes of green waste in 2009/10. Therefore the transfer stations had a landfill diversion rate of 56% (31% recyclables and 25% green waste) in 2009/10.

¹⁴ An average weight of 17.7 kg (39 lbs) has been used to convert number of batteries to tonnes.

¹⁵ A specific gravity of 0.85kg per litre for oil has been used to convert reported oil collection to tonnes.

3.3.3. Cost Projections for Landfilling Municipal Waste

The cost implication of the landfilled garbage for Council taking into account the landfill levy increases outlined by the Victorian EPA are provided in the Table 9. The cost per tonne has been calculated using the assumption that the current gate fee at Koonwarra Landfill site will increase by 2.5% CPI plus the increasing landfill levy.

There is the potential that the landfill gate fee will increase as Council is currently supporting a GRWMG project to identify the full cost of landfilling waste in the landfills across Gippsland. The GRWMG study will take into account all the direct and indirect costs of the landfill now and in the future to provide a basis for setting the landfill gate fee. Costs included in an assessment of a landfill over its lifetime include:

- operation;
- engineering cost of the landfill and its cells;
- permitting costs for the landfill and its cells;
- monitoring;
- reporting;
- rehabilitation;
- landfill levy costs; and
- potential future legislative.

This is especially important for closed landfills where the increased cost can not be recouped as the landfill is no longer receiving waste.

There is significant potential for this study to identify a number of unaccounted for costs that will need to be incorporated into the landfill gate fee. Furthermore potential exists for the cost of landfilling waste to increase in the future at a greater rate due increased legislative requirement especially relating to environmental management and rehabilitation. Any such increase in identified current and future costs for the landfill will be covered through the landfill gate fee.

Table 10: Projections for the cost of landfilling municipal waste to Council 2011 -2021

	2010 (Current)	2016 no change	2016 65% Recycling	2021 no change	2021 65% Recycling
Cost per tonne ¹⁶	\$92.00	\$115.90	\$115.90	\$127.63	\$127.63
Kerbside landfill cost	\$362,000	\$479,000	\$304,600	\$548,000	\$348,400
Transfer station landfill cost	\$324,000	\$428,000	\$272,400	\$490,000	\$311,500
Litterbin collections landfill cost	\$25,000	\$33,000	\$20,600	\$37,000	\$24,700
Total landfill gate fee	\$711,000	\$940,000	\$597,600	\$1,075,000	\$684,600

¹⁶ Estimated using a 2.5% CPI growth annually and the landfill levies published by the Department of Sustainability and Environment

It should be noted that the above table does not include the increased cost Council would entail due to increased recycling services to achieve a 65% diversion rate. In theory the saving can be directly subtracted from the cost of implementing recycling and minimisation services to increase the landfill diversion rate to represent the true cost to Council. Indeed as the cost of residual waste treatment increases, so the benefits of landfill diversion increase financially, relative to the base line. It should be noted that this is a simplified method of estimating financial savings and should not be used as fact in future waste management calculations.

The table therefore provides an indication of the potential savings Council could make through achieving a 65% landfill diversion rate with a saving of \$342,400 in 2016 which increases to \$390,400 by 2021.

3.4. Koonwarra Landfill Total (Municipal and Business) Waste Predictions

Koonwarra Landfill (the Landfill) is a central component of Council's waste management strategy. Council has a planning permit for 18 hectares to be used for landfilling and intends to develop this over two stages, with each stage having a number of incremental landfill cells. The landfill is currently in Stage 1 of its development plan, which represents a total airspace of 732,890m³. The landfill is expected to be operational for 20 plus years.

The Landfill receives garbage from both Council and commercial users. Table 11 below provides predictions for the total tonnage of garbage to be landfilled at Koonwarra until 2021. These predictions are based upon the assumption that commercial waste will grow at a rate of 1.5% per annum and that there will be no change in the landfill diversion rates for this waste¹⁷.

Table 11: Predicted tonnages of garbage to Koonwarra landfill 2010-2020

	2010 (Current)	2016 no change	2016 65% recycling	2021 no change	2021 65% recycling
Municipal garbage	7,729	8,107	5,168	8,424	5,370
Business garbage	10,988	11,526	11,526	11,976	11,976
Predicted total tonnage	18,717	19,633	16,694	20,400	17,346
% difference from 2010	-	4.9%	-11%	8.9%	-7%

The predictions indicate that if Council maintains the current landfill diversion rates there will be a steady increase in waste landfilled due to population growth and business waste generation rates. However, if Council can increase recycling to 65% then the tonnage of waste sent to landfill would fall below 2010 tonnages.

3.5. Waste Composition Information

Waste audits undertaken in January 2009 provide valuable information on the composition of the material placed in the kerbside garbage and recyclables bins and at Koonwarra transfer station. This information allows identification of the major waste streams that Council could or should look to divert from the garbage bin and what the rate of contamination is for the kerbside recycling bin. Waste audits are a valuable method of understanding how the public is actually using the waste system put in place by Council. As

¹⁷ This assumption is based on business waste growing slightly faster than population growth for the region.

such Council will ensure that they are undertaken at least every three years during the tenure of this WMS.

3.5.1. Kerbside Garbage Bin Waste Audit Information

Waste audits of kerbside garbage bins were carried out on 100 bins in Leongatha and 100 bins in Korumburra Table 12 below summarise the data obtained from the kerbside garbage bin audits.¹⁸

Table 12: Composition of weekly kerbside collected household garbage 2009¹⁹

Waste Type	Leongatha		Korumburra		Total	
	Weight (kg)	Proportion (%)	Weight (kg)	Proportion (%)	Weight (kg)	Proportion (%)
Food	262.18	27.7%	236.38	37.2%	498.56	31.5%
Garden	230.16	24.4%	51.94	8.2%	282.10	17.8%
Recycling	103.28	10.9%	117.16	18.4%	220.44	13.9%
Residual	349.26	37.0%	230.24	36.2%	579.50	36.7%
Total	944.88		635.72		1580.60	

Review of these figures indicates that they are indicative of the whole of South Gippsland Shire. This can be seen by using the following equation:

$$\begin{aligned}
 \text{Total weight collected p.a.} &= \text{Average bin weight} \times \text{n}^\circ \text{ households receiving service} \times 52 \\
 &= 7.9 \times 8,312 \times 52 \text{ (weekly collection)} \\
 &= 3,414 \text{ tonnes p.a.}
 \end{aligned}$$

This compared to the reported figure for 2008/9 of 3,721 represents a difference of 307 tonnes less than the reported tonnage collected in 2008/9. This represents an 8% difference and indicates that the figures are believed to be representative of the whole of South Gippsland Shire.

The figures indicate that on average 13.9% of material in the sampled garbage bins could be recycled using the current kerbside recyclables bin. Nearly half of the material in the garbage bin was organic material that could be diverted from landfill with food and garden waste combined representing 49.3% of the material presented in the garbage bins. If organic and recyclable material were diverted from the kerbside garbage bin then only 36.7% of the material currently collected in the kerbside garbage collection would be sent to landfill.

The actual tonnage of material that the kerbside garbage system currently collects and that could be diverted from landfill is shown in below. This tonnage has then been calculated as a percentage of the total municipal garbage and recyclables generated in South Gippsland to provide the potential percentage contribution to landfill diversion. Please note that the tonnages represent kerbside collected households only, not transfer station users.

¹⁸ All Environmental Concepts Report "South Gippsland Shire Council Household Garbage Waste Audit January 2009"

¹⁹ Figures from All Environmental Concepts report "South Gippsland Shire Council Household Garbage Waste Audit February 2009"^{1,190}

Table 13: Potential tonnage and percentage of waste diverted from kerbside garbage bin

Waste Type	Waste Percentage (%)	Total tonnage of material going to landfill in 2010	Percentage contribution to landfill diversion
Food	31.5	1,241	9%
Garden	17.8	701	5%
Recycling	13.9	548	4%
Residual	36.7	1,446	N/A
Total	100.0	3,939	18%

3.5.2. Kerbside Collected Recyclables

Household kerbside recyclables bin audits were carried out on 100 bins presented in Leongatha for collection. Table 13 below summarises the audit data obtained.²⁰

Table 14: Composition of kerbside collected recyclables

Recyclable Type	%	Waste Type	%
Paper/Cardboard	65.18	Food	0.10
Plastics #1-3	4.75	Garden	0.04
Glass	20.85	Nappies	0.03
Steel Cans	2.91	Residual	4.18
Aluminium Cans	1.00		
Liquid paper board	0.66		
Plastics #4-7	0.30		
Total Recyclables	95.65	Total Non-Recyclables	4.35

The figures indicate that kerbside collected recyclables achieve the 5% target maximum contamination target set out in the Gippsland Regional Waste Management Plan. Discussion with the kerbside recyclables collection contractor indicates that the majority of this contamination arises due to a minority of residents misusing this service.

²⁰ All Environmental Concepts Report "South Gippsland Shire Council Household Garbage Waste Audit January 2009"

3.5.3. Waste Transfer Station Garbage Skip Audit

Waste audit of the garbage skip at Koonwarra transfer station was carried out over one day in January 2009. The data from this waste audit are shown in Table 14 below.

Table 15: Audit data for garbage skips at Koonwarra transfer station, 2009²¹

Waste Type	Average volume (Litres)	Composition %
Household waste	6,520	26.1%
Building rubble	2,105	8.4%
Wood	3,950	15.8%
Electrical appliances	235	0.9%
Textiles, Clothing	1,940	7.8%
Polystyrene	905	3.6%
Furniture	3,940	15.8%
Toys	310	1.2%
Miscellaneous	1,750	7.0%
Plastic wrap	375	1.5%
Garden	785	3.1%
Paper/card	525	2.1%
Recyclable containers	1,610	6.5%
Total	24,950	100%

The audit results indicate that by volume, household waste was the most common material accounting for 26.1% of all materials. The waste audit report states that household waste was mainly deposited by residents who indicated that they are not serviced by the kerbside waste collection service. Some household waste originating from street bins and camping sites was also presented to the landfill skips.

Table 14 indicates that materials which can currently be recovered or recycled make up a significant part of the waste stream with garden waste, paper/cardboard and recyclable containers representing 11.7% of the material within the garbage skips audited. In June 2010 Council also began diverting building rubble (i.e. bricks and concrete) from landfill to commercial concrete recycling centres; therefore this figure of 8.4% should decrease with time.

The diversion of an extra 20.1% of material from the transfer station garbage equates to a further 739 tonnes being recycled or an additional 5% landfill diversion for South Gippsland.

²¹ All Environmental Concepts Report "Gippsland Regional Waste management Group Waste Audits January – February 2009"

4. Consultation and Community Feedback

Council encourages and welcomes all forms of feedback from the Community at all times. In completion of the WMS Council has augmented feedback from the public along with information captured in community consultation and survey exercises such as the Local Government Community Satisfaction Survey (CSS), Sustainability Strategy consultation and specific consultation undertaken for this WMS.

Gauging how the community sees waste management in the Shire currently and how it would like it to develop is very important to Council. Feedback from the public and businesses that are provided with a waste management service gives a strong indication of what services Council should be targeting to improve, maintain or add.

It should be noted that a successful community consultation process may receive feedback from 100 people, which would represent under 0.4% of the Shires total population. Furthermore the feedback received is often from more engaged persons, who can be particularly passionate about the consultation topic. Therefore, it is important to use feedback from consultation as a guide to what the public desires, but not as an absolute.

A public consultation process can also provide strong feedback on the services desired. It does not necessarily take into account financial sustainability, legislative compliance or Council's requirement to maintain high environmental performance. As such, it is necessary to use the feedback to help inform the directions taken within the WMS, but not to dictate them.

4.1. Council Consultation Used in the Waste Management Strategy 2011-2021

Council has undertaken specific consultation within the development of this WMS to help identify the public's views on different aspects of waste management within the Shire. The specific consultation exercises undertaken included:

- online survey open to the public available through Council's website;
- public forum event in Leongatha; and
- meetings with significant stakeholders including current contractors, major account holders at Koonwarra landfill and key commercial waste generators in the Shire.

The WMS specific consultation was augmented by recent feedback received to Council from the public and the findings, specific to waste management, of the Local Government Community Satisfaction Survey 2010²² (CSS), and the Sustainability strategy consultation. This provides a good indication of the public's general perception of waste management within the Shire over the last six years, with specific detail on 2010.

To prevent duplication within this report, the feedback received during the consultation exercises are not discussed in detail here. Instead, the feedback is included throughout the report, in the section where it is deemed most relevant.

²² Department of Planning and Community Development: Local Government Community Satisfaction Survey 2010; undertaken by The Wallis group.

4.2. Online Survey

An online survey was developed and made available to the public through the front page of Council's website from the 30th November to 12th December 2010. Over this period the survey was viewed by 55 people and completed in full by 44. A copy of the survey questions is provided in Appendix D.

The survey was designed to identify the public's views on the key areas of waste management identified as being of most importance in the new WMS. A summary of all the answers received is also provided in Appendix D.

4.3. Public Forum

A public forum event was held in the council chambers on Thursday 9th December from 7:00pm to 8:30pm. Advertisements for the forum were placed in Council's notification banner published in the four local newspapers for two weeks prior to the event. Furthermore, the event was advertised on the front page of the council website for two weeks prior to occurring.

The public forum was attended by 12 members of the public and consisted of the following actions:

- Initial introduction to the evening and what a WMS is and why Council has one.
- Posters with key issues and a range of potential options that could be implemented were placed on the walls within the council chambers and an hour was given for the public to walk around and review them. Each poster had a bank of stickers that the public were invited to place next to the option they thought was best.
- Feedback sheets were provided for written feedback on any areas of waste management that the public wanted to discuss. Council officers and contractors were on hand to answer questions as well.
- At the end of the public forum a 30-minute initial summary talk was provided followed by a question and answer session on waste management in the Shire.

A summary of all the feedback received from the forum is provided along with copies of the posters and the forms provided in Appendix E.

4.4. Meetings with Key Stakeholders

Four meetings were organised prior to the public forum on the 9th December 2010 and one on the 21st January 2011 with identified key stakeholders. In the meetings discussion was held regarding a number of ideas of how to achieve Council goals of reducing waste to landfill, providing a good service and ensuring financial sustainability of the waste management system. Each group was also asked to provide feedback on what they saw as the best way for Council to achieve its goals. The five groups identified and the reasoning for their selection is provided below.

- **Current kerbside collection contractors:** To provide a review of kerbside collection options being proposed to ensure that they were physically feasible.
- **Current landfill and transfer station contractor:** To provide a review of landfill and transfer station options being proposed to ensure that they were physically feasible.
- **Key account holders at the Koonwarra landfill:** To understand what drivers would be required to increase landfill diversion.
- **Business groups, town associations and larger businesses within South Gippsland Shire:** To understand what drivers would be required to increase recycling from waste generators in South Gippsland.
- **Gippsland Regional Waste Management Group.**

All of the key stakeholder meetings were well attended, apart from the business groups, town associations and larger businesses. It is believed that this was due to a number of reasons including waste management not being a core business and it being a busy time of year for this stakeholder group.

A list of attendees and the summary findings of the stakeholder meeting can be found in Appendix F.

4.5. Community Satisfaction Survey 2010

The Department of Planning and Community Development (DPCD) has undertaken an annual Community Satisfaction Survey (CSS) since 1998. The survey is available to any Council that opts in to receiving it and benchmarks the community's views on a range of local governance issues. The survey is carried out over the phone with 350 people across the Shire being asked their opinions on a range of areas including appearance of public areas, recreational facilities and waste management amongst others.

The CSS provides the WMS with a good indication of residents in South Gippsland view of waste management currently and also historically. Furthermore those surveyed are asked to provide reasons for their responses.

4.6. South Gippsland Sustainability Strategy 2010 Consultation

Council has recently completed a comprehensive consultation exercise for its pending Sustainability Strategy. The consultation covered a range of topics relating to sustainability and South Gippsland, including waste management, and used a range of media including consultation sessions and direct survey.

The consultation sessions were held throughout the Shire including two major public sessions, in Leongatha and Korumburra, and at schools, community facilities, government agencies and for Councillors and internal Council staff. Consultation input was also sought at 27 network meetings.

In total:

- 223 young people under the age of 18 provided input;
- overall 743 adults were directly consulted;
- 966 community members had direct input; and
- 53 communities, businesses, government agencies had representation through the consultation of public and network meetings.

The direct survey was launched at the inaugural South Gippsland Sustainability Festival and was provided to the public in both hard copy and electronic format. A total of 141 completed hard copy surveys were received. The survey was also modified to be placed online using Survey Monkey. A link was attached to Council website and advertised in the local papers, community newsletters, Landcare networks etc. Council received 208 online responses to the survey.

Information gathered from the consultation sessions was collated using Any Zing Consultation Data software. Data relating to waste management from the consultation sessions and the direct surveys is provided in Appendix G.

5. Public Approval of Waste Management

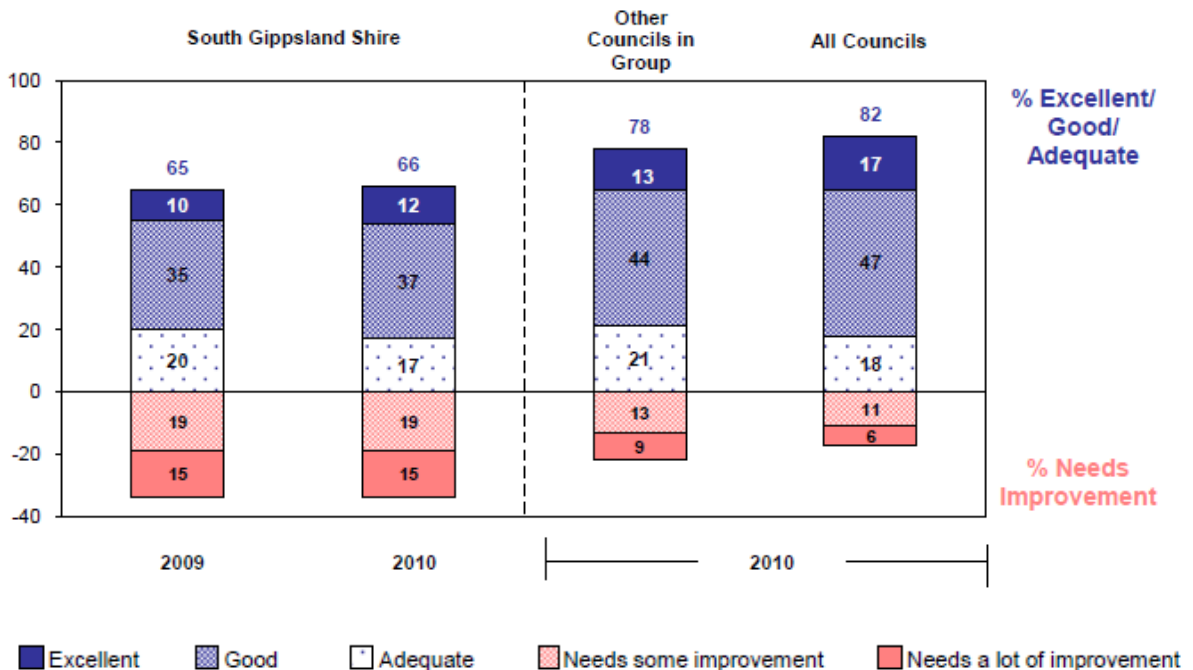
Approval for the current waste management system has been measured using the consultation processes undertaken specifically for the development of the WMS, and from the Community Satisfaction Survey (CSS) 2010 and the Sustainability Strategy consultation.

The CSS provides a good indication of the public’s approval of the overall waste management system in South Gippsland, whilst the WMS public consultation targeted more specific approval for collection systems, waste infrastructure and Council actions.

5.1. Community Satisfaction Survey (CSS) results

The 2010 CSS survey indicates that 66% of respondents believe Council provides an adequate/good/excellent service relating to waste management. The CSS categorises South Gippsland as a ‘Large Rural Shire’. South Gippsland was then benchmarked against the other ‘large rural Shires’ with the results indicating a lower than average performance in this category. Benchmarking against all Shires in Victoria indicates below average satisfaction as well.

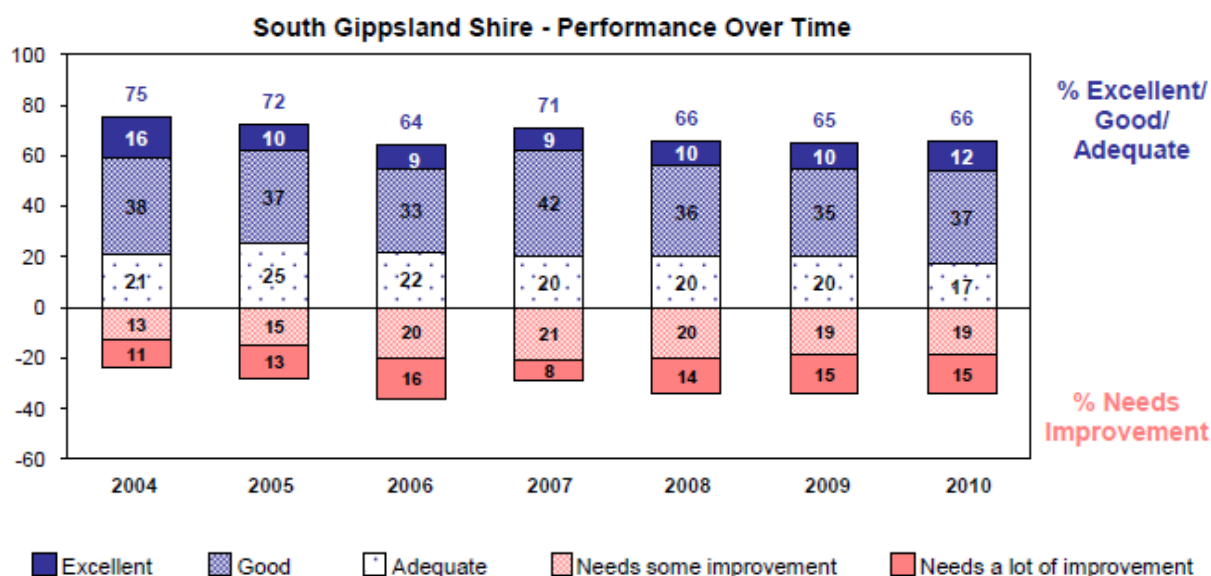
Figure 6: Community Satisfaction Survey 2010 waste management results



5.1.1. Historical Approval Rating for South Gippsland Shire

Review of historical responses to the CSS indicates a decline in Councils' approval rating since 2004, although it has maintained its approval for the last three years. It should be noted that this may be a reflection of increasing public awareness regarding waste management and requests for increased service levels not being met. Furthermore financial aspects of waste management are often cited as a reason for dissatisfaction, which is difficult for Council to control due to the landfill levy, fuel prices and landfill construction and operation cost increases often being the cause for rising waste management charges.

Figure 7: Historical results for waste management in the Community Satisfaction Survey



5.1.2. Reasons Provided for Needing Improvement

The 2010 CSS documents the main reasons provided by respondents as to why they rated the performance of Council the way they did. Respondents were allowed to provide more than one reason; Table 16 below presents the main reasons provided in the survey.

Table 16: Responses to Community Satisfaction Survey on improvements

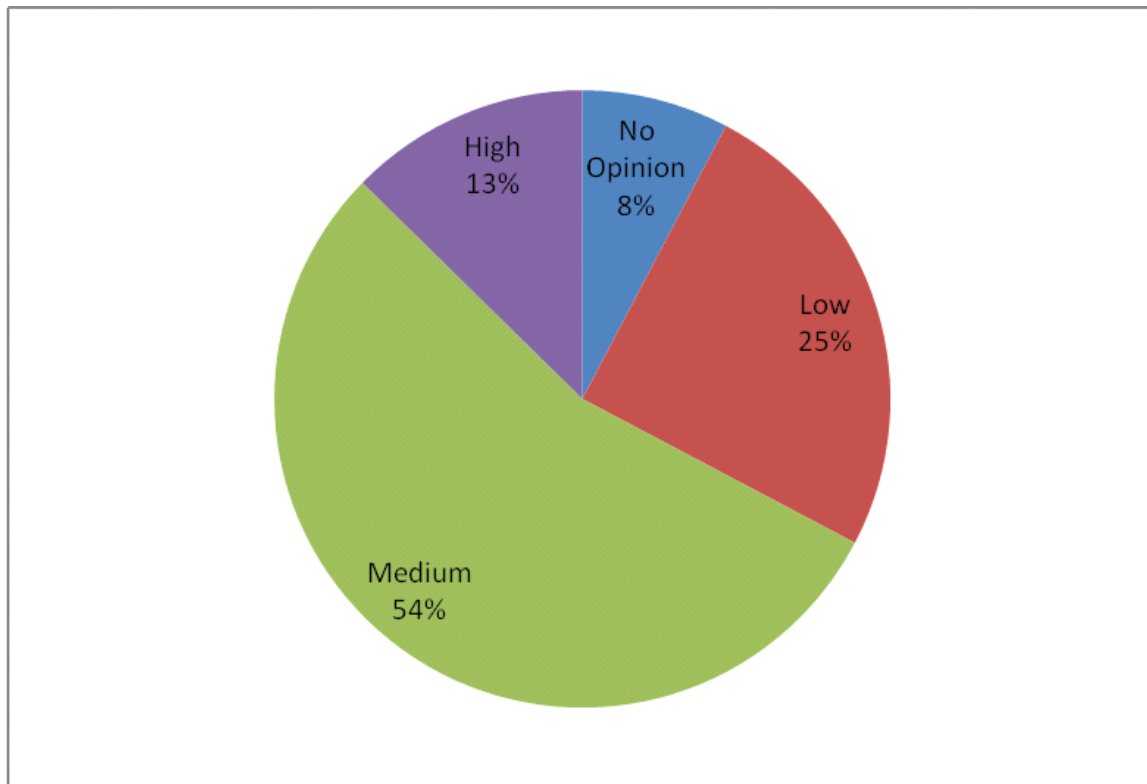
Reasons needs improvement	% respondents
Any/more frequent hard waste collection	40
No garbage collection	33
More consistent/lower fees for tips etc (reintroduce vouchers)	24
Any/More frequent collection of green waste/vegetation	14
More comprehensive recycling program/no recycling program	9
More reliable collections	6
More consistent/convenient/longer opening times/days for tips etc.	6
Bigger bins	4
No collection of recyclable materials	4
Extend areas covered by garbage collection in areas outside townships	4

Note: Only the most frequently mentioned reasons shown. Some respondents may have given more than one reason for needing improvement.

5.2. Sustainability Strategy Consultation

The direct survey for the Sustainability Strategy Question 12 specifically asked respondents “How would you rate the current performances of waste management services in South Gippsland?” The results of this question are provided in Figure 8.

Figure 8: Public responses to Question 12 of the Sustainability Strategy direct survey



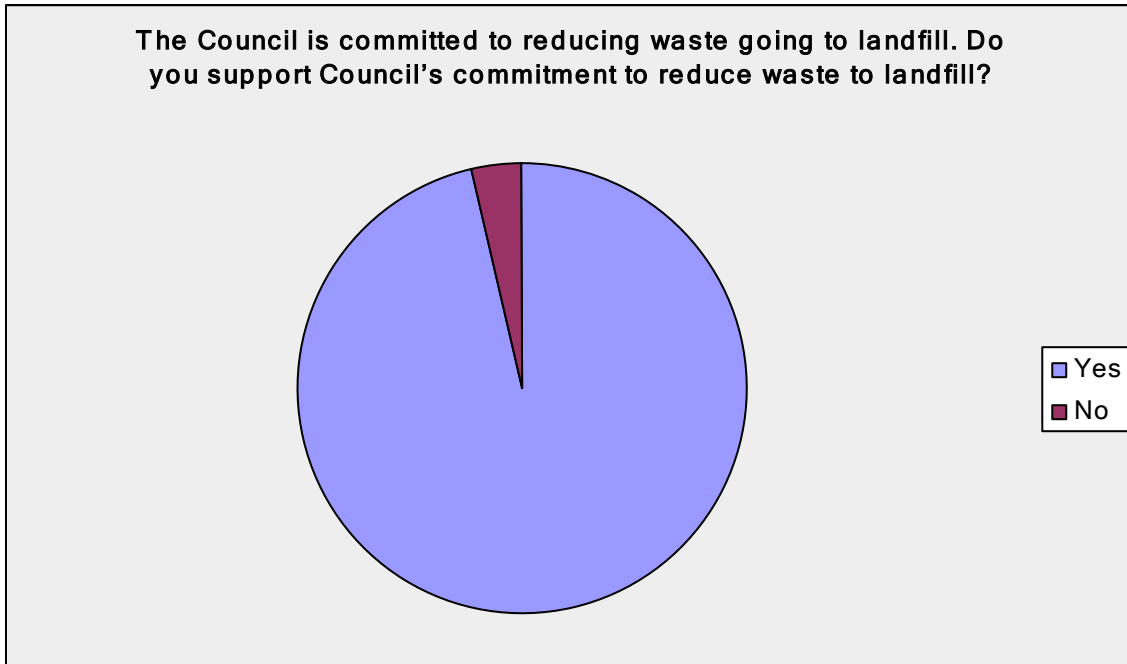
The responses received indicate that the level of satisfaction reported is similar to that reported by the CSS, with 67% of respondents rating waste management services as medium to high.

5.3. Waste Management Strategy Consultation Approval Results

As outlined in Section 4 the WMS consultation was undertaken using a number of methods including online survey and public forum. The online survey contained a number of questions relating to community approval of the current waste management systems. The public forum on the other hand was targeted on future options and whilst opportunity was provided to discuss the current system, no real debate was had on the subject.

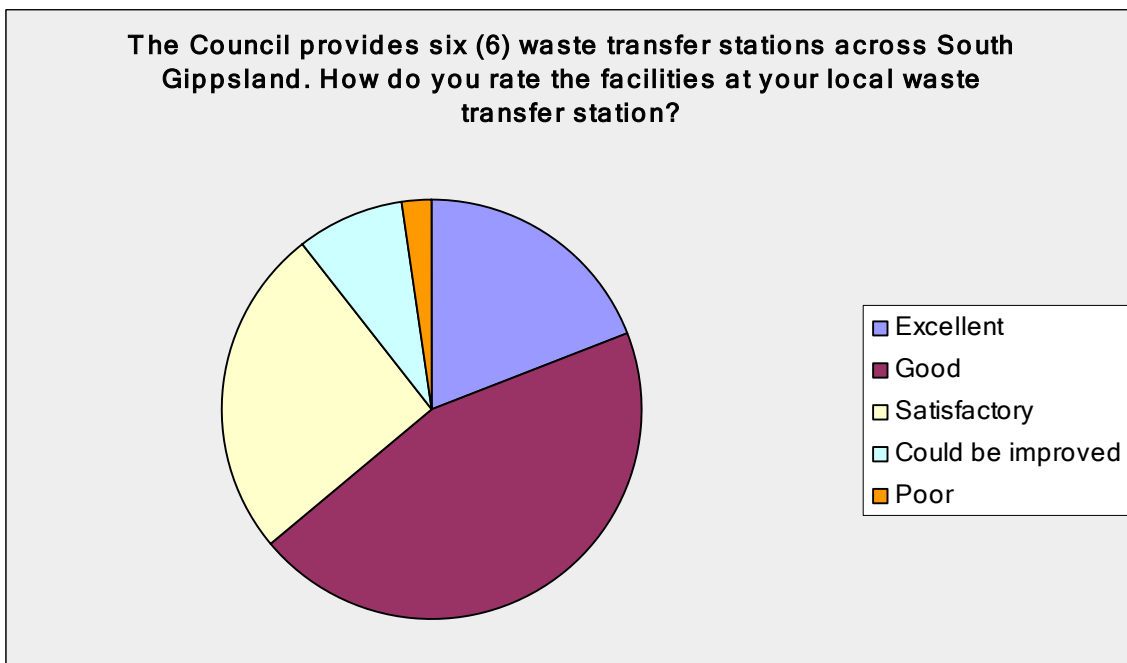
Question 1 of the online survey identified a key Council commitment to reduce waste going to landfill and asked if the respondent agreed with this pledge. 54 members of the public answered this question with 52 stating yes whilst two replied no.

Figure 9: Survey response to Question 1



Question 2 from the online survey targeted public opinion on the operation of the six transfer stations across the Shire. 47 people responded to the question with 89% stating the service was satisfactory to excellent. The results indicate that the majority of the public are happy with the service and infrastructure provided at the transfer stations in South Gippsland. Furthermore, 64% of the respondents actually rated the current transfer station system as being good or excellent, a very positive indicator. The question did allow respondents to provide comments, with a large amount of useful feedback received.

Figure 10: Survey response to Question 2



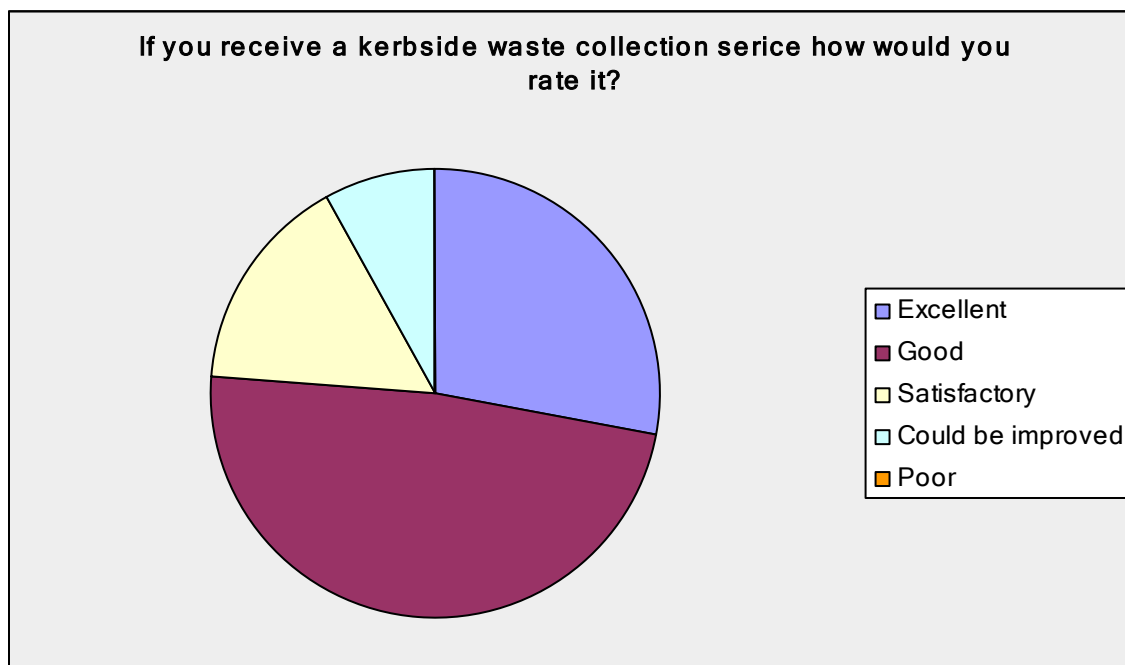
As stated earlier the information provided in the survey should be used as indicative only. For example, of the 47 respondents to Question 2 only one respondent identified the Mirboo North transfer station as their local facility and therefore whilst the question indicates a general approval of transfer stations it might not reflect the public opinion of all the transfer stations in the Shire.

Table 17: Local transfer stations identified by online survey respondents

Local transfer station identified	Percent of respondents	Number of respondents
Foster	12.8%	6
Koonwarra	51.1%	24
Korumburra	17.0%	8
Mirboo North	2.1%	1
Venus Bay	12.8%	6
Walkerville	4.3%	2
Total	100.0%	47

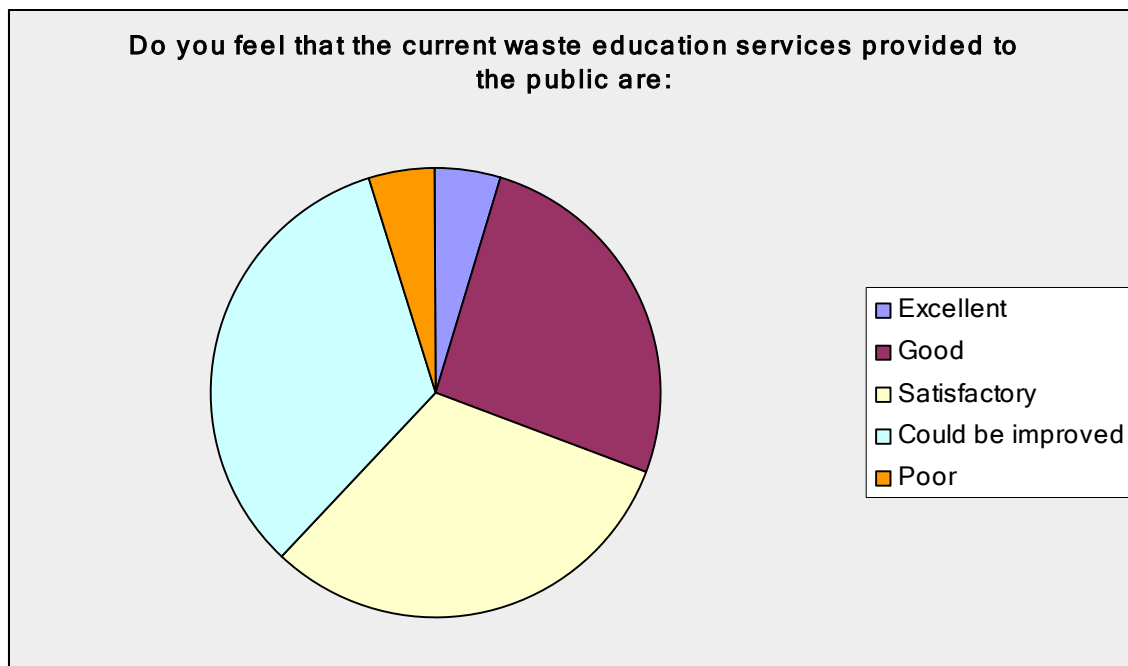
Question 4 of the online survey asked respondents that received a kerbside collection service to identify their approval for the current service. 25 people responded to the question with 92% indicating it was satisfactory or better and no respondents rated the system as poor. The reduction in the number of respondents to this question is potentially due to large proportion of respondents not receiving a kerbside collection service at present, although this is not known.

Figure 11: Survey response to Question 4



Question 22 of the online survey asked respondents to rate the current level of waste education services provided to the public. 42 people responded to the question with 92% rating the system as satisfactory or better.

Figure 12: Online survey responses to Question 22



5.4. Community Approval for Current Waste Management

The results of the CSS, Sustainability Strategy consultation and the online survey appear to provide a conflicting picture of waste management within the South Gippsland. However the WMS consultation focused on current services. While the reasons identified for being dissatisfied with the current waste management system in the CSS are mainly to do with hard waste collection, kerbside collection provision areas and waste fees and charges. Comments received by the Sustainability Strategy consultation process indicate a similar trend with the majority of negative comments surrounding hard waste collection, kerbside collection service provision, cost of waste management, green waste collection and the provision of an e-waste service.

The difference between the three indicates that the public is satisfied with the systems in place, but not the coverage of these systems and the lack of hard waste system altogether.

Council is in the process of tendering for a hard waste collection service and it is hoped that this will remove this area of dissatisfaction.

The provision of a kerbside collection to all households in the Shire has to be balanced with public desire and Council’s need to keep waste management costs at an acceptable level. This is further discussed in the key issues and opportunities section below.

6. Key Issues and Opportunities

The WMS highlights a number of key issues and opportunities for waste management and provides direction for the future development of South Gippsland's waste management.

6.1. Kerbside Garbage Waste Collection

Council currently provides a weekly 120 Litre (L) kerbside garbage collection and a fortnightly 240L garbage collection. Consultation indicates that households that receive the service believe it to generally be satisfactory or better (See Figure 11). However the CSS indicates that there are issues regarding the coverage of the kerbside waste collection system (Table 16). These issues, along with a number of opportunities identified for increasing waste diversion from kerbside collection are further detailed below.

6.1.1. Kerbside Collection Area

Kerbside collection services are currently provided to 75% of residents in South Gippsland. Recent public communications with Council officers, the CSS, the sustainability strategy consultation and the online survey indicate that there is a significant desire for the kerbside collection service to be expanded to cover more of the smaller townships and rural areas that currently do not receive the kerbside collection service.

Expanding the kerbside collection area will improve Council's service provision to a large number of households and potentially increase landfill diversion. However, there will be a corresponding cost increase.

The extra cost is offset by the increase in community satisfaction with the expansion of the kerbside collection service and an increase in landfill diversion. The improvement in landfill diversion occurs as households that receive a kerbside recyclables collection service, in general, better patronise the recycling bin than they do the transfer station recyclables collection due to ease of use.

Council currently provides a kerbside collection service to the majority of townships in the Shire. The exceptions to this are Venus Bay and Walkerville which have total household numbers of 441 and 218 respectively. Furthermore both of these coastal townships receive a significant tourism influx over the summer periods, putting a strain on the current waste management services provided.

Council will review the extension of the current kerbside service to include Venus Bay²³ and Walkerville. This review will include assessing if the majority of the residents in these townships do desire the service. Discussion with the current kerbside collection contractor indicates that this is a viable service, however due to distance and household numbers it maybe difficult to provide the service for the same cost as occurs in larger population centres such as Mirboo North or Leongatha.

6.1.2. Kerbside Rural Collections

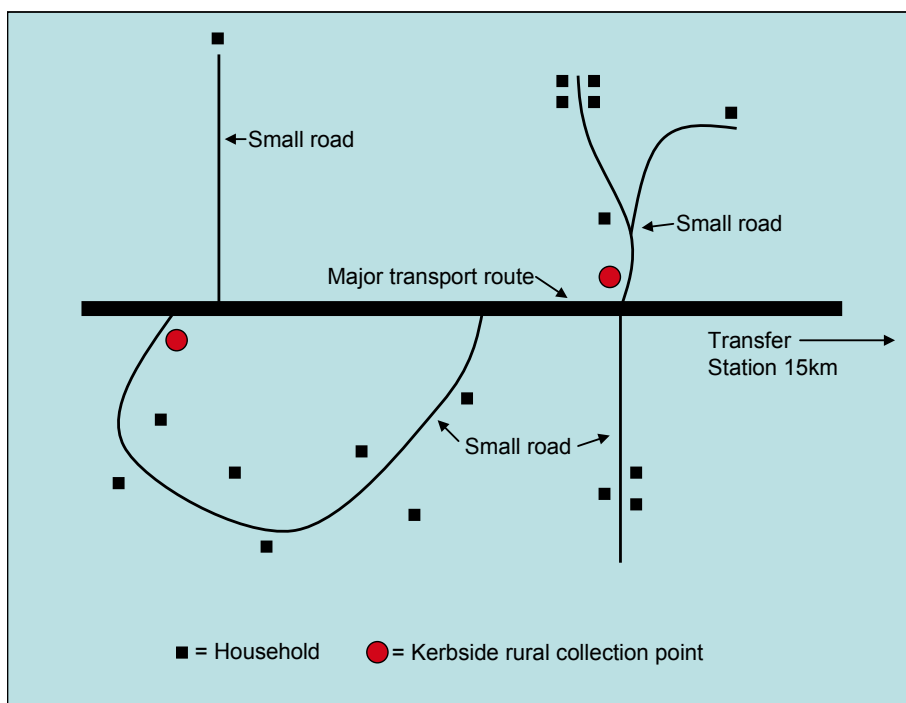
Inclusion of Venus Bay and Walkerville into the current Kerbside collection system will not ensure that a kerbside service is provided to all households in the Shire. There are still a large number of households in rural areas that would not be serviced. Providing a traditional kerbside collection service to these households is often not possible or overly

²³ Council has already indicated that it will do this for Venus Bay in the Council Plan 2010 -2014

expensive due to the length of household driveways or the distance from main transport routes.

A potential option is the provision of a kerbside rural collection point, whereby kerbside garbage and recyclable bins for these more rural households are aggregated at a location that is closer to the household than a transfer station and that the kerbside collection contractor can access easily. A graphical representation of this option is shown in Figure 13 below. Ideally the aggregation of bins should be away from the main road to prevent passers by from using the bin service, however, this is not essential and could cause a reduction in roadside litter.

Figure 13: Graphical representation of a kerbside rural collection system



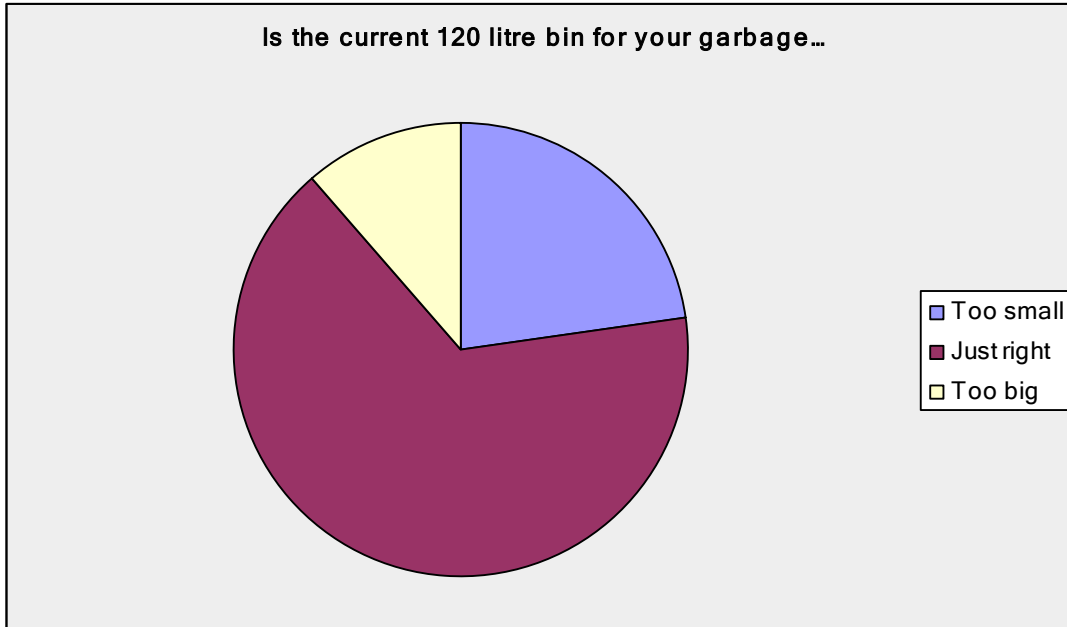
The aggregation of collection bins on a major transport route will improve the financial viability of the service as the time taken to service a household by the collection vehicle will be significantly reduced. The intended outcome of such a collection service is to increase service levels to the more rural areas of the Shire and potentially increase landfill diversion from these households. Discussion with the current kerbside collection contractor indicated that they can see the benefits of the system and would be willing to undertake a trial service.

Council and the current collection contractor will investigate the potential to undertake a trial of a kerbside rural collection in an area that would like to receive a kerbside collection service. If the trial proves successful then Council will review extension of the system to all communities that would like to receive a kerbside rural collection.

6.1.3. Kerbside Garbage Bin Size

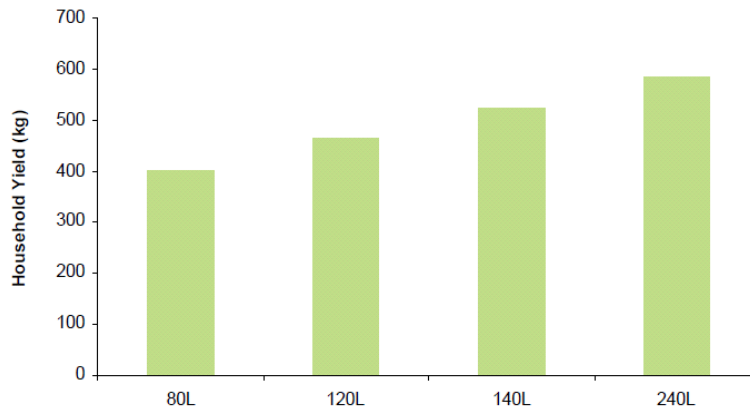
Question 8 of the online survey asked members of the public if their current garbage bin was “too small, just right or too big.” 35 people answered the question, with 11% indicating that the bin was too big, 66% stated it was just right and 23% stated it was too small.

Figure 14: Survey responses to Question 8



Sustainability Victoria (SV) research indicates that “local governments using smaller garbage bins generated less waste and had greater diversion rates for recycling than those using larger garbage bins. This has been a consistent trend since the first survey in 2000-01²⁴” (see Figure 15 below). The Local Government Annual Survey reports that 9 out of 79 councils in Victoria predominantly use an 80L garbage bin. Three of these councils are classified as Small Provincial council along with South Gippsland, representing 12% of this category.

Figure 15: Garbage yield by collection system, Victoria 2008-09 (Sustainability Victoria)²⁵



²⁴ Sustainability Victoria Local Government Annual Survey 2008/09

²⁵ <http://www.sustainabilitymatters.net.au/articles/28653-Unit-pricing-of-household-garbage>

Table 18 provides the cost and tonnage implications of an 80L service against other common kerbside garbage bin services. The provision of an 80L bin on average provides a lower cost per household and generates a lower tonnage of waste per household. When compared against a 120L garbage bin system the 80 Litre bin provides a 13% reduction in waste generation, a 2% financial saving per household but an increase of 13% per tonne.

Table 18: Sustainability Victoria financial and tonnage data for different garbage bin sizes

Collection System	Cost per tonne	Cost per household	Household yield (kg)
80L	\$162.91	\$65.50	402
120L	\$144.42	\$67.05	464
140L	\$117.75	\$61.79	525
240L	\$137.34	\$80.09	583
State Average	\$141.89	\$66.96	472

Source: Sustainability Victoria Local Government Annual Survey 2008/09

Question 9 of the survey directly approached the potential uptake of an 80L garbage bin by members of the public asking if, with a reduction in Council rates, the respondent would be willing to use an 80L garbage bin, 38 people responded to the question with 47% stating yes.

Council will consider the introduction of an 80L bin as a voluntary option for the householder to undertake, in return for a lower waste service charge. Consideration for this will be undertaken prior to, and for inclusion in, the next contract for the kerbside collection of garbage. Under the proposed system residents will be offered an 80L garbage bin when their current 120L garbage bin requires replacement to ensure Council does not create a waste stream.

Council believes that this is a good example of promoting waste minimisation and zero waste using an 'other strategy' as identified in the South Gippsland Sustainability Strategy (action number 1.3.4).

Should the introduction of a voluntary 80L garbage bin prove successful then Council will review reducing the standard bin size from 120L to 80L and will provide residents with the option to voluntarily increase their bin size to 120L with an increase in service charge.

6.1.4. Co-contracting Waste Services with Neighbouring Councils

Council supports the concept of working with neighbouring councils to procure a joint contract for the collection of kerbside waste, operation of transfer stations and potentially the operation of an Advanced Waste Treatment (AWT) facility or an organic waste treatment facility. The undertaking of such a venture provides a number of benefits including:

- reduced administration costs;
- increased economies of scale;
- increased tonnages of waste which makes alternative treatment methods more viable;
- increased tonnages of organic materials make an organic waste treatment facility more viable; and
- potentially increased competition in the tender process due to larger contract size.

The co-contracting of waste can however provide issues with control over the contractor and disagreement between partners. There is also the potential that by making the contracts larger Council will make it difficult for local suppliers to compete in the tendering process. It is believed that the benefits of a joint collection contract outweigh the negatives, as long as both parties have the same goals and vision for waste management.

Council will undertake more detailed discussions with the GRWMMG and, where appropriate, neighbouring councils on the potential for joint waste contracts to understand if the synergies required are present.

These discussions will focus on how to ensure the next round of waste management contracts for Council can be aligned with the neighbouring councils' waste management contracts including aligning finish dates of contracts and the specific services provided. Ensuring that this occurs will increase the potential for co-contracting now or in the future.

Council will ensure that, where feasible, any tender for co-contracting allows companies to bid for the provision of services for South Gippsland only, to prevent smaller companies from being excluded from the tender process.

6.2. Kerbside Recyclables Collection

6.2.1. Recyclables Capture

Waste audits of 200 bins in South Gippsland Shire indicated that 13.9% of the waste in the garbage bin was material that should have been placed in the kerbside recycling bin. This equates to 548 tonnes of material that could be diverted from landfill if residents utilised the current kerbside recyclables bin correctly. Achieving this would increase Councils landfill diversion rate by 4% using the systems currently provided.

The waste audit indicates that further community waste education, as identified in the waste education plan below, is required as there is either still some confusion as to what can be recycled and/or some households are purposely not using the recycling bin. Education and enforcement are discussed in detail below.

Council has recently increased the range of plastics captured in the kerbside recyclable collection system from plastics 1-3 to plastics 1-7. It is hoped that this will cause a reduction in uncertainty by households as to which plastics can be recycled, causing a corresponding increase in the total recyclables captured.

Council has adopted a target of reducing the loss of recyclables to the garbage bin from 13.9% to 5% by 2015. In 2015 Council will review achievement of this goal and identify a new target.

6.2.2. Contamination

The information available on the composition of recyclable materials collected from the kerbside indicates that contamination of the kerbside recyclable bin is 4.35%²⁶ which is below the targeted maximum contamination of 5%.

Discussion with the current kerbside collection contractor confirmed that recyclables contamination is not currently a significant issue. It was noted by the kerbside contractor and in the waste audit that the contamination that does arise comes from a minority of households that misuse the kerbside recyclable bin. Targeted education and/or enforcement action is required to reduce this contamination, see Section 6.11 and 6.12.

Council has recently increased the range of plastics captured in the kerbside recyclables collection system from plastics 1-3 to plastics 1-7. It is hoped that this will cause a reduction in uncertainty by households as to which plastics can be recycled, causing a corresponding reduction in the amount of contamination arising in the kerbside recycling bin.

²⁶ Taking Plastics 4-7 out of the contamination percentage

6.3. Green Waste and Food Organics Collection

Green waste and food organics constitute approximately 50%²⁷ of household garbage sent to landfill and have been identified as key areas for diversion from landfill by Council. Organic material breaks down in anaerobic conditions, as is found in a landfill, to generate carbon dioxide and methane. The latter of which is explosive and a greenhouse gas up 25 times more potent than carbon dioxide by the tonne. Furthermore, green and food organic material can be used to create beneficial products such as compost, soil improver and electricity (from methane capture and combustion).

The collection and treatment of garden and food organic waste is identified in Sustainability Strategy action number 1.3.5 relating to the inclusion Bio-composting of household organic waste streams.

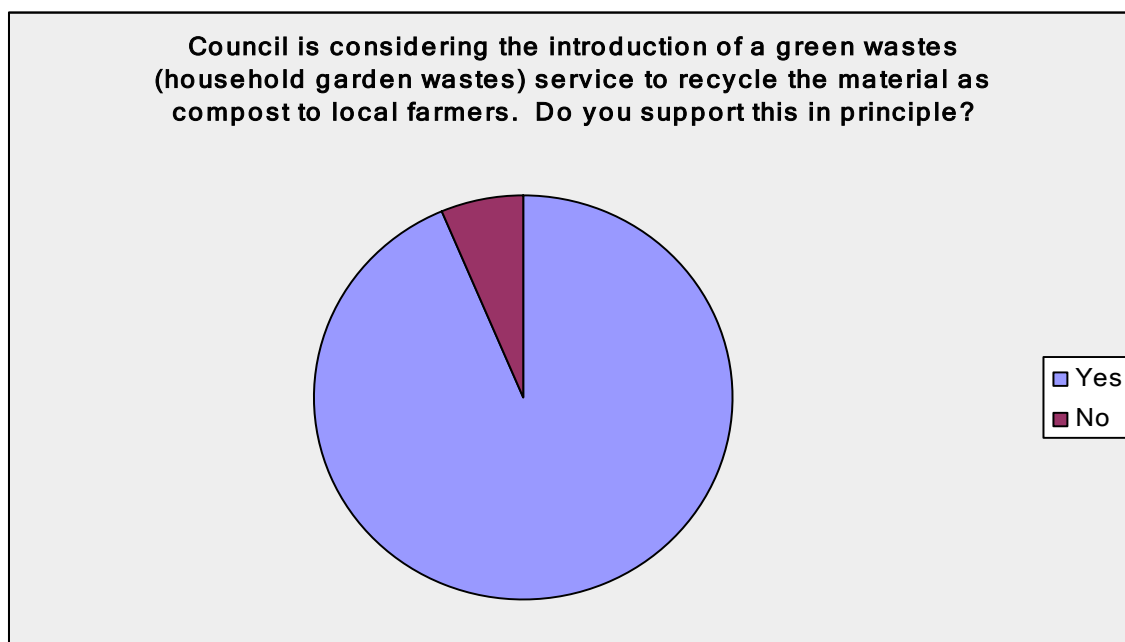
The separation and treatment of organic material is very advantageous for Council and the community as a whole. However, increasing the collection of organic material will require Council to look for a more robust method of treatment than currently used and the development of end market(s) for the treated material. Organic waste treatment is discussed in further detail in Section 6.7.7 below.

6.3.1. Kerbside Green Waste Collection

Council provides a free green waste service at all of its six transfer stations, diverting 2,931 tonnes of material from landfill in 2009/10. However waste audits indicate that more could be diverted from landfill, as green waste represents 18% or 715 tonnes of material in the kerbside garbage bin. Diverting this material from landfill will increase landfill diversion by 5%.

Kerbside green waste collection systems are a proven method of diverting waste from landfill. Community feedback indicates support from the public for the implementation of a kerbside green waste collection service. Question 11 gauged public opinion on such a service, 46 people responded with 43 stating that they support the service in principal.

Figure 16: Online survey responses to Question 11



²⁷ All Environmental Concepts; *South Gippsland Shire Council Kerbside Garbage Bin Audits 2010*

There can be logistical and use issues that arise from the implementation of the service. One of the major difficulties in establishing a green waste kerbside collection system is ensuring that the new system is economically viable for the tonnage of material that is diverted. As stated above, a green waste bin would target the 18% of material in the garbage bin currently.

This, on its own, would make the implementation of a weekly kerbside green waste collection system difficult, especially with the current no charge for acceptance of green waste at transfer stations. Section 6.5.5 discusses Council's intention to review the charge applied to green waste at the transfer station to recuperate some of the operational costs.

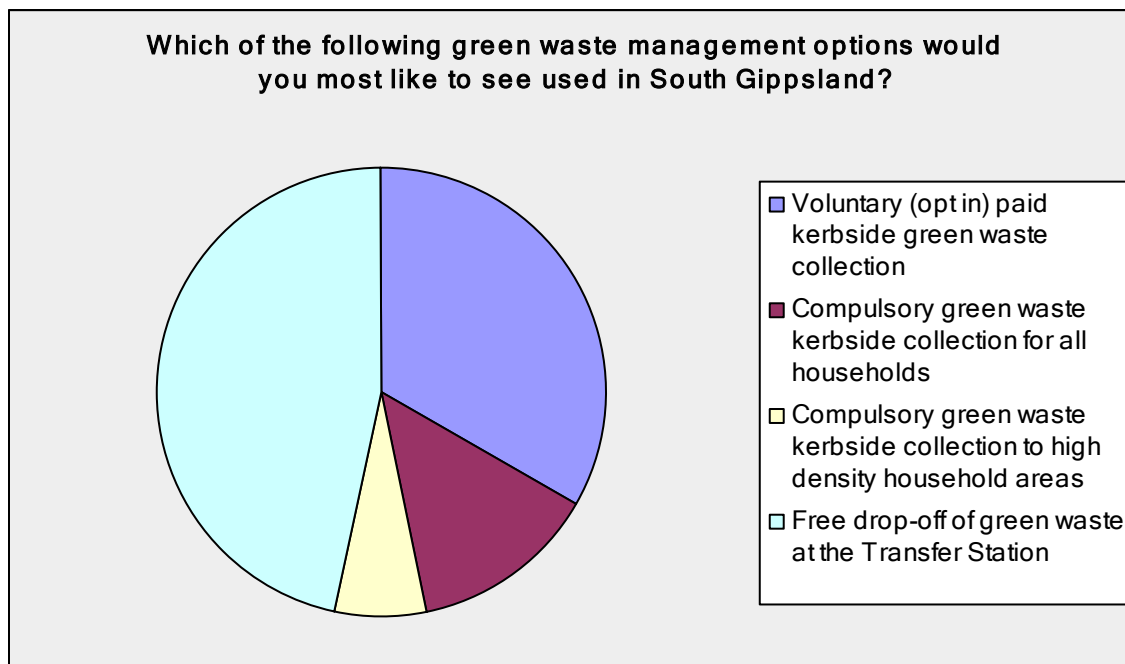
Council is aware that some households currently undertake backyard burning of garden waste materials. Council would like to prevent this activity in future due to the associated air quality and fire risk issues. The introduction of a kerbside green waste collection service would complement such a move as it removes the necessity for households to undertake backyard burning of green waste.

To ensure that a green waste collection service receives a viable amount of material the collection service should be a fortnightly or even monthly. The problem with implementing a monthly collection service is that the waste starts to break down either in the bin and/or on the kerbside (nature strip) over such a long period. Furthermore, the participation of households can be reduced due to the time between collections. Council believes the provision of a fortnightly collection service will ensure viable tonnages of material for a collection service.

The participation rate of households also has an influence on a kerbside green waste collection service. A compulsory green waste collection service is estimated to receive a 50-60% participation rate because households will not undertake garden maintenance every month, some will home compost material and some will self haul green waste to a transfer stations.

Question 13 of the online survey asked which green waste management option respondents would like implemented. 45 people responded to the question with almost 50% identifying the current system of free transfer station drop off. The other 50% identified a kerbside collection, however they were split between a voluntary (opt in) or a compulsory service.

Figure 17: Survey responses to Question 13



The highest chance of success for a kerbside green waste system will be in the more urban areas of the Shire where there are more households, that are closer together and the households are less likely to have the space to home compost.

It is believed that there is a suitable desire and volume for a green waste collection service to be implemented in South Gippsland. To ensure the greatest chance for success of such a service Council will review the option of providing a fortnightly 240L bin kerbside green waste collection service to all households (with a garden) in the Leongatha, Korumburra, Mirboo North and Foster townships. If this system is successful Council will then roll out the service to other communities that desire the service.

If the kerbside green waste collection system is used correctly then 18% of the material currently placed in the kerbside garbage bin could potentially be diverted from landfill; this represents 709 tonnes of material being diverted from landfill. To ensure maximum capture of green waste in a kerbside green waste collection service, a corresponding education program for households as to why the system has been implemented and how to use the new bin correctly will be implemented with the new service.

6.3.2. Kerbside Collection of Food Organics

Food organics wastes from kitchens represents 31.5% of the materials present in the kerbside garbage bin²⁸, equating to 1,240 tonnes of material in 2010. South Gippsland Shire is currently supporting GRWGM with its Regional Organics Strategy review and hopes that will further the potential implementation of a viable collection and treatment of food organics in the Shire.

There are a number of physical and financial issues with kerbside collection of food organics, some of which are listed below. It is assumed that these issues will be investigated and addressed in the Regional Organics Strategy review.

²⁸ All Environmental Concepts Report "South Gippsland Shire Council Household Garbage Waste Audit January 2009"

- Odour can be an issue with food organics if they are not collected weekly. However, there are solutions to this such as the use of biodegradable bags for the storage of food organic waste.
- Treatment of food organics from kitchens, especially when animal by-products are included, needs to be much more controlled than green waste only treatment due to greater potential for odour, vermin and pathogen spread.
- Contamination is often much higher for food organics compared to green waste.
- Participation by householders in food organics collection services is often low.
- Cost per tonne of a food organics collection system either stand alone or co-collection with green waste is often high due to the increased treatment required, higher contamination and low participation (the latter reducing the cost effectiveness of the collection system). Furthermore, the collection system generally will either need to be weekly or employ a system to reduce odour potential at the kerbside, such as biodegradable bags.

If the GRWMG study indicates that a kerbside food organics collection is considered viable in Gippsland then Council will undertake a feasibility study for a separate food organics collection or co-collection with green waste. However, whilst the diversion of food organics from landfill is highly desirable and should be considered Council's current focus is on achieving a good and successful kerbside green waste system first. If a successful green waste collection system is achieved then Council will review collection of food organics.

It is important to note that the collection of food organics will require the organic material to be treated / composted to a standard that ensures disease, pathogens and seeds are destroyed. Consideration regarding organic waste treatment is provided in section 6.3.5 below.

Council will ensure that, if a kerbside green waste collection service is tendered for, then the contract shall include provision for the potential future inclusion of food organics into the kerbside green waste bin. Council will also ensure that the need to treat this waste is taken into account by the tenderers for any potential green waste treatment contracts.

6.3.3. Commercial Organic Waste

Significant organic material arises in South Gippsland's from catering, restaurant and supermarkets. The extension of a kerbside food organics collection service to some of these facilities would be very beneficial for increasing diversion from landfill. This would be in accordance with the Sustainability Strategy action number 1.3.7 to *"investigate the bio-composting of organic and green waste from restaurants, supermarkets and other business in compliance with legal requirements."* There are, however, difficulties in the provision of the service with fortnightly collection and the bin size being of greatest issue. Furthermore, the increased tonnage and potential for presence of organic material of animal origin would necessitate a robust organic treatment facility to be utilised.

Council will review the provision of a separate food organic collection service to commercial enterprises in conjunction with the feasibility study on municipal food organics collection. Council recognises that the inclusion of commercial food organics will cause even greater need for an organic waste treatment facility within the Shire or nearby to be utilised.

6.3.4. Home Composting

Home composting can be a successful method of diverting organic material from landfill whilst having a low environmental footprint, as it does not require vehicle collections and provides the household with a beneficial product. Furthermore, home composting does not require Council to construct an organics waste treatment facility for its diversion from landfill. The disadvantage is that there can be low uptake and people do not maintain use of the compost bin over time and it does not capture organic material of animal origin.

In the online survey, respondents were asked if they would use a compost bin if one was provided at a subsidised rate by Council (Question 17). Of the 43 respondents to the question 74% said that they would use the compost bin. 43 people also responded to Question 18 with 49% stating they would be willing to attend a one hour lesson on using the compost bin in return for the subsidy.

Modelling of the potential implications for South Gippsland's waste to landfill as a consequence of rolling out a subsidised compost bin using the percentages provided by respondents to the online survey and an assumption that the compost bin would capture 55% of kitchen organics from participating households is provided in Table 19 below.

Table 19: Modelled tonnage of food organics composted with home composting

Number of Households in South Gippsland	% Hh using home composting	Number of Hh participating	% of garbage that is kitchen organics	Total kitchen organics arising	Capture rate of kitchen organics	Tonnage home composted annually
11,517	49%	5,620	32%	620	55%	341
11,517	25%	2,879	32%	315	55%	173
11,517	5%	576	32%	63	55%	35

The costs modelled are based on an assumed compost bin cost of \$75, with Council providing a \$25 subsidy and the householder paying \$50. Based on these assumptions each compost bin would provide a cost of \$412 per tonne in its first year of use. However the lifetime of a compost bin is longer than one year so this figure is halved if the compost bin is used for two years. If the average compost bin was to be used for five years the cost per tonne would be \$82.40. A properly used compost bin can therefore be a cost effective way of reducing a target waste from landfill.

It is noted that the implementation of a home composting scheme at the same time as a kerbside green waste system will cause an overlap in targeted materials if householders put garden waste into the home compost bin. This is not believed to be a significant issue as the home compost bin will target kitchen organics and small volumes of garden waste; the kerbside green waste bin on the other hand will receive larger volumes of garden organics.

Council will consider the provision of subsidised compost bins to members of the public in return for their attendance to a short lesson on how to properly undertake home composting. Rolling out compost bins in this fashion ensures not only the proper use of the compost bin and therefore increasing the likeliness of its continual use, but also ensures Council only subsidises people that are serious about using a compost bin.

A successful method of roll out for this system is to use the transfer stations as the distribution centre. Residents can then undertake an online or community led training session that provides them with a voucher which provides them with the subsidised price of the compost bin. The lesson on composting for the voucher can then be supplemented through provision of further lessons provided to local community groups such as the Rotary Club or Women's Institute or done on a quarterly basis out of one of the transfer stations or council buildings.

Council will also ensure that support, education and, where feasible, material help is provided to community groups that want to operate a community composting programme.

6.4. Hard Waste Collection

Council has a responsibility to implement systems that incorporate community demand and responsible waste management practises. Currently, there is no scheduled hard waste collection dates, however, Council has gone to tender for a booked hard waste collection service once a year. Furthermore, Council provides six transfer stations for self haul of hard waste by the public.

In the 2010 CSS the most frequent reason (40% of respondents) stated for dissatisfaction with South Gippsland's waste management was the lack of service provision for hard waste collection. It is hoped that the introduction of booked hard waste collection service will amend the reason for dissatisfaction. Council intends to make the service cost neutral whereby the ratepayer pays the cost of the collection, however it is noted that the potential for illegal dumping and public desire for a lower cost service may require Council to subsidise the service. Furthermore Council recognises that the service is of greater need to certain sections of society and as such will investigate the provision of larger subsidy to senior citizens and disabled card holders.

6.4.1. Landfill Diversion of Hard Waste

The kerbside hard waste collection system could discourage the diversion of waste from landfill if wastes are not segregated into garbage and recyclables, as currently occurs at the transfer station. To ensure maximum diversion of waste from landfill Council will the hard waste collection service provider to deliver the collected hard waste to transfer stations for segregation of any items which can be reused or recycled.

6.4.2. eWaste Collection

Electronic waste (eWaste) refers to electrical and electronic equipment and is of particular importance to Council, as it can contain contaminants such as lead, cadmium, beryllium, mercury, and brominated flame retardants. It is therefore a target item to keep out of landfill as once within the landfill these chemicals can leach into the surrounding environment contaminating land and groundwater.

Victorian State Government has been trialling an eWaste program called Byteback that is aimed at assisting the development of a national framework for the responsible collection and disposal of end-of-life computer equipment. The trial has been extended so that it could integrate naturally into the roll-out of the National Television and Computer Product Stewardship Scheme.

Council will strive to prevent eWaste disposal to landfill in South Gippsland. To achieve this, eWaste will be separately collected at Council transfer stations and in the hard waste collection service so that it can be transported to a remanufacturing or recycling facility. Council will monitor and support, where possible, the Byteback and National Television and Computer Product Stewardship Scheme and assess the potential for implementation of them in South Gippsland.

The cost of such a system can be expensive, however the benefit to the environment and legacy landfill issues outweigh this. The high cost of correctly disposing eWaste should not be borne by Council alone; instead a fee should be paid by the members of the public disposing of eWaste items. Council will subsidise eWaste collection if the cost is found to be prohibitive to public use to reduce the potential for illegal dumping. This can then potentially be phased out in the future as recycling becomes more cost effective and / or product stewardship schemes impact upon the eWaste generation rates.

6.5. Transfer Stations

Council provides six transfer stations for the public to use across the Shire, which are managed and operated by an external contractor.

6.5.1. Transfer Station Design, Operation and Infrastructure

Review of the operations and infrastructure of the current transfer stations along with reference to the Sustainability Victoria publication *'Guide to best practice at resource recovery centres'*²⁹ identified a number of areas where improvement can be made in design, operations and management. Key issues that need to be addressed include:

- improvement in the signage used at the transfer stations to provide a uniform colour coded set of signs for the identification of different stockpile areas. Any such signs should take into account Sustainability Victoria's guidance on Signs for Transfer Stations and Landfills³⁰;
- provision of one or more 'reuse and recycling shops' at a transfer station (see section 6.5.2 below);
- increase the range of plastics recycling to include plastics 1-7 in line with kerbside recyclables;
- improvement in the storage of waste materials at the transfer stations with particular reference to the storage of waste oil and the operation of the bunds, storage of used batteries and the amount of green waste present on the site at any one time;
- review of the site layouts to ensure that public customers pass the recyclables drop-off areas prior to the garbage waste skips;
- provision of small 240L garbage bins in the green waste area and recycling bins in the garbage waste disposal areas to reduce contamination and increase the diversion of materials from landfill;
- provision of a mattress collection facility in a minimum of two of the transfer stations;
- provision of an eWaste collection area that, if possible, has a roof to prevent rainwater ingress; and
- improvement of the hard stand surfaces at some of the sites to ensure that public customers are not driving/walking through muddy or standing water areas on site.

Many of the issues identified above should be covered within Councils current budgets for maintenance and/or capital expenditure. Implementation of changes that achieve these targets will provide South Gippsland with a transfer station service that complies with current legislation, achieves a high level of landfill diversion, meets best practice guidance and provides improved service to users.

6.5.2. Transfer Station 'Reuse Centre'

Council will look into the provision of a 'reuse centre' within at least one, but preferably two, of its transfer stations. The consultation process undertaken for the WMS identified strong support amongst the community for a 'reuse centre' within South Gippsland. Council will investigate the provision of a 'reuse centre' at two of the transfer stations to resell reusable items.

The system proposed is that all of the transfer stations put aside items that are deemed suitable for resale. These items are then collected and transported to the two resale centres for display and sale to the public. Items at the resale centre should be given a maximum shelf life, for example four weeks, to ensure that the 'reuse centre' maintains a good quality and variability to maintain use by the public.

²⁹ Sustainability Victoria , Resource Smart report "Guide to best practice in resource recovery centres" 2009

³⁰ <http://www.sustainability.vic.gov.au/www/html/1946-signs-for-transfer-stations-and-landfills.asp>

Council will investigate the potential to operate such a facility in conjunction with a local social enterprise whereby the enterprise operates the facility and in return receives all of the proceeds from its operation. Such systems have been successfully implemented throughout Victoria.

6.6. Transfer Station Funding

Council waste management budget for 2010-11 financial year indicates that waste transfer stations cost Council \$739,000 per year to operate. Landfilling of the garbage from the transfer station cost a further \$324,000 using a \$92.00 cost per tonne³¹; it should be noted that this represents lost revenue rather than actual cost to Council, which is lower. It has not been possible to cost recyclables or green waste processing. The estimated total cost for transfer station operation and landfilling of the waste arising from the transfer stations is therefore \$1,062,600 per year.

The transfer stations currently generate \$325,000 revenue from gate fees received. The waste transfer stations therefore have a net cost of \$737,600 a year to Council, which is paid for by all rate payers. Council does not recommend a change in the current overarching funding arrangements for the six transfer stations.

Table 20 below provides a cost per cubic metre assessment at transfer stations currently indicating that the charges are currently relatively equitable.

Table 20: Assessment of current household cost per cubic metre at transfer stations

Description	Calculated volume (m3)	Current cost	Current cost per cubic metre
Per bag (Up to 120L)	0.12	\$3.00	\$25.00
120 L bin	0.12	\$3.50	\$29.17
240 L bin	0.24	\$7.00	\$29.17
Car boot	0.5	\$13.00	\$26.00
Ute, Single axle trailer 1.8m x 1.2m (not overloaded). Includes single large items	1.0	\$25.00	\$25.00
Transfer station and residential loads at Koonwarra landfill	1.0	\$25.00	\$25.00

6.6.1. Mattress Collection and Recycling

Discussions with the current transfer station contractor indicate that the imposition of a specific charge for the acceptance of mattresses should also be considered rather than the current cubic metre charge. Mattresses create a specific problem in landfills as they do not compact easily and have a tendency to 'float' through the waste mass to the top of the landfill, moreover mattresses can be recycled.

Council has applied for a grant to start a mattress recycling program. This will be undertaken using the current transfer stations. It is envisaged that at least two transfer stations could support a covered storage area for the collection of mattresses which can be sent for recycling when enough have been collected to warrant haulage.

Mattress recycling is currently not a cost neutral or positive exercise and a charge should be imposed to help cover the cost of recycling. Table 21 below provides a summary of what other Councils around South Gippsland Currently charge for receiving a mattress at their transfer stations.

³¹ Koonwarra landfill currently charge \$92.00 per tonne.

Table 21: Summary of mattress charges in surrounding Councils transfer stations 2010

Local Government Authority	Mattress size	Cost per mattress
South Gippsland Shire Council	Service not specified	-
Latrobe City Council	Single	\$10.00
	Double	\$15.00
Bass Coast Shire Council	Service not specified	-
Wellington Shire Council	Single mattress	\$8.00
	Double mattress	\$13.00
Baw Baw Shire council	Service not specified	-

6.6.2. Transfer Station Green Waste Charge

Transfer stations in South Gippsland currently do not charge for the receipt of green waste. Consultation indicates that this is a strongly supported position in the community. However, Council has to pay for green waste to be stored, mulched and treated. This is currently borne by all rate payers.

Council currently collects 2,931 tonnes of green waste at its transfer stations this equates to 268Kg per household annually; this is very high tonnage per household. In 2008/09 Sustainability Victoria reported that the average kerbside green waste collection provided 170kg per household annually³². Generally the figures per household are lower for green waste self hauled to a transfer station when compared to a kerbside collection service. These figures indicate that the South Gippsland transfer stations are likely to be receiving green waste from households and potentially commercial enterprises from outside of the Shire.

Council intends to review the implementation of a charge for the receipt of green waste at its transfer stations to recuperate some of the cost for capturing, storing and processing green waste. Council will maintain a period where there will be a green waste charge amnesty before the fire season to help reduce fire risk from stockpiling of garden waste by households. Any charge imposed will be priced to partially cover the cost of collection, storage, mulching and treatment whilst providing a service to the public and discouraging the stockpiling of material. Any charge that is imposed would not be expected to be greater than that charged in neighbouring councils, see Table 22 below.

Table 22: Summary of green waste charges in surrounding councils 2010

Local Government Authority	Size of load	Cost per load ³³
South Gippsland Shire Council	Any	Free
Latrobe City Council	Ute filled to waterline	\$8.00
Bass Coast Shire Council	Per cubic meter	\$12.00
Wellington Shire Council	Ute filled to waterline	\$12.00
Baw Baw Shire council	Per cubic meter	\$12.00

³² Sustainability Victoria, *Local Government Annual Survey 2008-09*

³³ Cost per load obtained from each Councils website and was correct as of the December 2010

6.7. Waste Disposal / Treatment

6.7.1. Landfill Strategy

Waste predictions indicate that the Koonwarra landfill will need to accept increasing quantities of waste each year unless greater landfill diversion is achieved. This modelling does not take into account business waste direct hauled to the landfill facility, which it is assumed will grow inline with population and MSW growth, see Figure 4.

Once Koonwarra landfill's current capacity is used, Council will have to either:

- transport waste a significant distance for disposal which will have significant cost implications to the annual budget;
- apply to EPA Victoria to extend the tipping capacity of the existing landfill; or
- design and construct a new landfill in the area, which may be difficult to obtain regulatory and public approval for.

Furthermore, an increase in the tonnage of material received will cause the lifespan of each cell to be reduced causing increased engineering costs per annum for Council.

Increasing resources and effort to divert materials from landfill is a cost-effective solution to extending the life of the landfill, whilst also providing improved waste management practise and better environmental outcomes. The economics of such an action are clear with the increasing landfill levy and inflation likely to see the current \$92 per tonne landfill gate fee increase to over \$115 by 2015.

Composition data for kerbside garbage bins, public litter bins and transfer station garbage bins indicates that the initial increase in recycling can occur through better utilisation of the collection systems currently provided.

6.7.2. Landfill and Transfer Station Contracts

The current landfill and transfer station contracts do not optimise the incentive for diversion of waste from landfill. Council will review the current landfill contract and identify improvements that will provide the landfill operator with a greater incentive to divert material from entering the landfill. Council will enter discussions with the current landfill and transfer station operator to investigate the possibility for appropriate content and mechanisms to be entered into the current contract and/or the next contract. The impact of this may result in changes to the expenditure by council on the annual management fees paid to the contractor. The scale of these changes and whether the impact on Council budgets would be positive or negative is not known at this stage.

6.7.3. Commercial Landfill Diversion

Current figures indicate that over half of the waste entering Koonwarra landfill is generated by commercial customers. Measures for maximum landfill diversion of not just MSW but commercial solid waste must be considered. To encourage greater diversion of commercial waste materials from landfill the methods available to Council include:

Financial cost: Increasing the gate fee cost per tonne for commercial waste would provide further financial benefit for business to increase landfill diversion. In part, this will be done by the increasing landfill levy, however, it may be found that this is not a strong enough financial imposition to divert commercial waste from landfill.

Financial reward: Commercial operators could be further rewarded for diverting material from landfill. This is already done in the ability to deposit some targeted recyclables at the transfer stations at no charge. Further options could include a procurement system that prefers companies that achieve a certain level of environmental performance, including

waste diversion or for Council to implement a purchasing policy that favours the use of locally recycled products. This is discussed in more detail below.

Facilitation: Council could facilitate the funding, design and planning of waste management infrastructure aimed at improving commercial landfill diversion. Consideration of the construction of a commercial only Resource Recovery Centre (RRC) to assist in achieving landfill diversion, this is discussed in further detail below.

Council can also adopt greater requirement for waste management to be considered in the planning decisions, not just from a waste generation during construction but also for the ability for buildings to store a recyclables and garbage bin on site, this is discussed in further detail below.

Education: Increased focus from the waste education budget to the commercial sector to improve understanding amongst the sector and to increase knowledge of alternative solutions.

6.7.4. Commercial Resource Recovery Centre (RRC)

Koonwarra Landfill currently receives approximately 11,000 tonne per annum of commercial waste. Discussion with the current landfill operator, Council and key account holders at the landfill indicates that there is potential for the construction of a commercial Resource Recovery Centre (RRC).

The RRC envisaged would receive waste from open-top collection vehicles (with bins and skips or large utes) and compactor trucks that identify that they have a high proportion of recyclables (and no putrescible waste). The vehicles would then deposit waste onto hard standing within a shed where a small 'grab excavator' would sort through the material to divert waste such as cardboard, wood/timber, metal and rubble/concrete into skips for recycling, whilst the remaining waste would be sent to landfill. SITA Environmental Solutions currently operates a similar facility at the Hallam Road landfill in Hampton Park (outer Melbourne), which is claimed to achieve a 60% diversion rate. A conservative estimate is that a similar facility in South Gippsland could achieve a diversion rate of 40%.

It is not known how much of the waste currently received at the landfill is transported in open-top vehicles and how much by compactor vehicles. Assuming an estimate that 50% of the commercial waste received at the landfill could be processed by an RRC achieving a 40% diversion rate then an estimated 2,200 tonne could be diverted annually. This represents approximately 12% of all (municipal and commercial) waste sent to landfill. However, amortising the cost of design and construction of RRC infrastructure, its maintenance and operation would influence an assessment on the economic viability of establishing and operating the RRC.

Discussion with the current key account holders at the landfill indicated that they would be willing to use the facility if it was the same economic cost as the landfill or lower. It was also indicated that the facility could be constructed nearer to the source of the majority of waste (such as Leongatha and/or Korumburra) rather than at the Koonwarra landfill itself.

Council will investigate the physical and financial potential for such a facility to be constructed within South Gippsland. If Council decides that it would like to proceed with the construction of a RRC then State Government bodies such as Sustainability Victoria will be approached for funding under the new Driving Investment in New Recycling fund. This fund has \$14 million to support recycling throughout Victoria between 201-2014 and will provide up to 50% of the funding to an approved Local Government project. One of the stated objectives of the fund is to promote recycling infrastructure in Regional Victoria.

6.7.5. Council Procurement Policy

Council recognises that as a major purchaser of materials in South Gippsland it has the ability to influence the market for recycled materials in the region. Council will review its purchasing policy with a view to increasing the requirement for the preferential purchase of recycled, preferably locally recycled, products in the completion of Council operations. Such a policy will help provide a stable demand and market for recycled materials in South Gippsland fostering the development of a green economy in the region.

6.7.6. Council Planning Policy

Council recognises that the management of waste needs to be taken into account during the design and construction of commercial and residential buildings. During consultation with key stakeholders it was identified that a barrier to the provision of a recycling service to commercial enterprises arose due to there not being sufficient space for a recyclables and garbage bin on many commercial properties, including new commercial buildings. Council will review the current Planning Policy regarding the provision of space for waste management on all new building sites. Council aims to require all new constructions in South Gippsland to take the onward management of waste into account during the design and construction phase.

6.7.7. Construction Waste Management Plans (WMP)

Council further recognises that the construction and demolition industry provides a significant amount of material to Koonwarra landfill, which could potentially be recycled. Council will review the current planning policy regarding the need for construction and demolition contractors to provide a Waste Management Plan (WMP) with any planning application. The WMP will be or will be based on the construction and demolition WMP that has been developed by Sustainability Victoria, see Appendix H.

6.7.8. Organic Waste Treatment

Council currently collects an estimated 3,000 tonnes of green waste annually at the six transfer stations. This material is mulched on site by the transfer station operator and then left to degrade. The end material can then be purchased by businesses and the public, however, a significant proportion has to be hauled to the Dutson Downs Organics Recycling Facility in Wellington Shire.

There are a number of issues with the current arrangements for treating organic waste including the non-compliance with Australian Composting Standard AS: 4454. This standard has been created to ensure that the composting process undertaken destroys seeds and pathogens that might be present. Council's current system does not ensure this, and as such provides the potential for weeds and pathogens to be spread and is a very low quality product.

The development of an organic waste treatment facility that achieves adherence to this standard would remove the potential for spread of pathogens or invasive species. The composting of organic waste to AS: 4454 will also ensure that potential markets for the output compost have greater confidence in the quality of the compost product that they are purchasing. Ensuring such confidence in the output compost product will support the growth of local markets for compost material to facilities such as farms, households and Council operated facilities (such as schools).

The main difficulty in undertaking composting to this standard is the potential cost of the machinery and infrastructure required. There are however a number of methods being developed that could achieve the goal of composting to the AS 4454 without being too expensive. It is understood that these are currently being reviewed by the GRWMG. Council supports GRWMG efforts to develop organic waste treatment facilities within the Region

and welcomes the opportunity to develop an organic waste treatment facility with neighbouring Shires either within South Gippsland or nearby.

6.7.9. Alternative Waste Treatment (AWT)

This WMS acknowledges the changing direction of waste management towards alternative waste technologies and the need to investigate options to divert more waste from landfill. This desire has led to considerable interest in AWTs recently and the potential ability to achieve greater diversion of waste from landfill. Currently AWTs can be broadly aligned into three categories:

- Biological (e.g. Mechanical Biological Treatment (MBT) with composting or anaerobic digestion);
- Thermal (e.g. energy-from-waste, gasification, pyrolysis);
- Other (e.g. biodrying, waste to bio-fuels).

Whilst there is no doubt that AWTs are an important part of an integrated waste management system, they currently require significant annual tonnages of material (critical mass) to be contracted to be economically feasible. There are some technologies that operate using smaller tonnages of material that are currently in commercial trials, however, it is believed that the business case for these are not currently robust enough to recommend their use at this point.

It is envisaged that there will be a point in the near future when an AWT plant will be viable either at a Council or Gippsland regional level. As such, provision should be included within the kerbside waste collection contracts for negotiated variations to contract rates should Council need to alter the disposal point for waste, from the Koonwarra landfill.

Council believes that it currently does not create enough municipal waste to warrant investment in its own AWT facility, however, it will consider the following actions to support access to an AWT solution in the future:

- support GRWMG efforts and research to develop a regional AWT facility;
- remain open to the option for a local AWT should a technology be proven to operate commercially at the scale required by South Gippsland Shire; and
- if a business case develops for South Gippsland to use an AWT in the Gippsland Region or within another neighbouring council then Council should use the facility.

6.8. Littering and Illegal Dumping

Littering provides a number of issues including pollution, both physical and aesthetic, and incurs cost for collection and disposal. There is no reason for littering to occur in South Gippsland Shire with a significant waste infrastructure provided. Council aims to deliver ongoing programs which will address many of the detrimental effects of litter, as well as ways that the community can reduce litter in the Shire.

Council does not currently measure its progress on the management of littering and as such it is not possible to compare this against the Towards Zero Waste target of reducing littering behaviour by 25% compared to 2003. Council will work with the Victorian Litter Action Alliance to measure, record and report littering in the Shire.

A litter prevention taskforce has been established to oversee the development and implementation of the Strategy and to discuss waste minimisation projects. This group consists of community members, environmental educators, Council officers, Environment Protection Authority (EPA) representatives, and Regional Education Officers. An alliance with Bass Coast Shire Council has been developed to provide a consistent message across the region and to combine resources to provide an effective education campaign.

6.8.1. High Tourism Areas

There is a persistent problem with littering and illegal dumping of waste in high tourism areas in peak season. South Gippsland receives over five million tourist nights a year, providing significant logistical issues for the management of waste. Council currently increases the collection frequency for many public litter bins and the opening hours of some transfer stations during peak tourism season, which is December to May. However, there is an issue of household waste being dumped next to public litter bins and outside of transfer stations, even with the increased service provided.

Two of the key areas identified for illegal dumping of waste are Venus Bay and Walkerville. The potential provision of a kerbside waste collection service to these areas would, hopefully, reduce the incidence of household waste being illegally dumped.

Discussion with the transfer station operator indicated a belief that it was not the opening hours of the transfer station facilities in these locations that led to illegal dumping activities but rather a desire to not pay the transfer station fee. Furthermore, the current figures for vehicles attending the transfer station do not warrant an increase in the hours of operation for any of the facilities. Instead Council will look towards greater enforcement of anti-dumping laws.

Council will monitor littering and illegal dumping within the Shire after the increases in services proposed. If the problem persists then Council will review enforcement of anti-dumping laws. This will include investigation into the viability of CCTV cameras in hotspot areas for illegal dumping, such as near the gates of transfer stations, to increase the capture and prosecution rate of illegal dumpers.

6.9. Public Event Recycling

There are a number of challenges associated with events, including the co-operation of stall holders, servicing of bins on the day, contamination of the recycling stream by festival goers and bin placement. Through the services of the GRWGM education officer, Council will work with the organisers of key events in the Shire to ensure that waste and recycling facilities are provided and steps are undertaken by traders and stallholders to reduce waste.

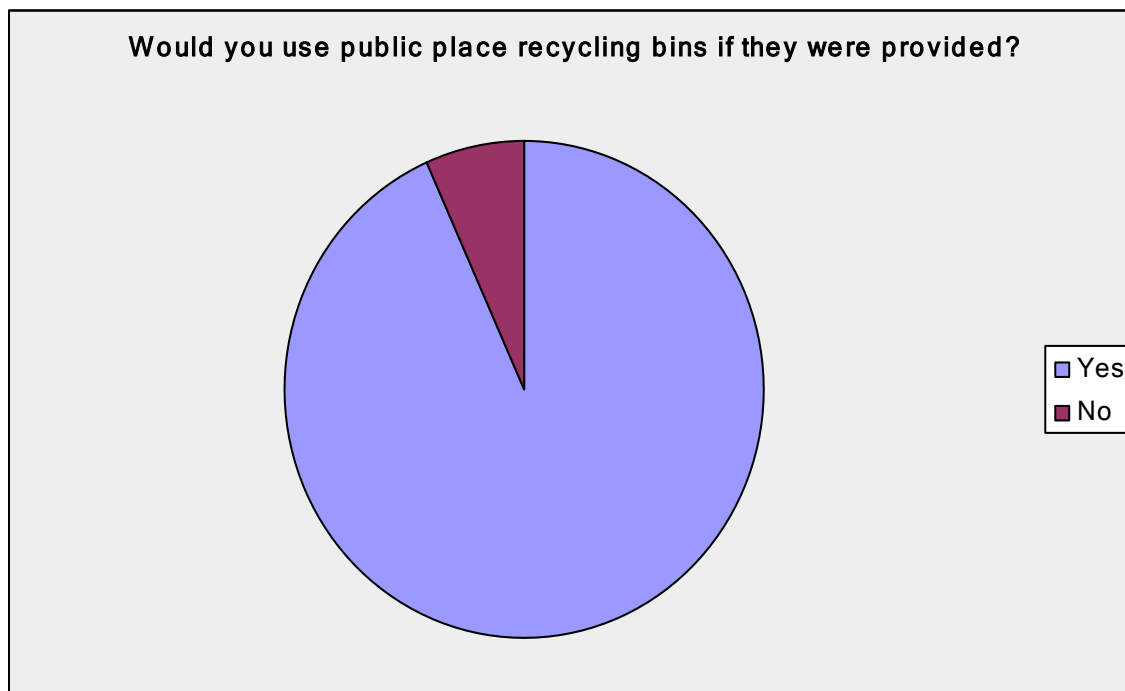
With assistance from the GRWGM, Council has purchased a trailer to be used by community groups who commit to running events in accordance with Waste Wise principles. The trailer contains a number of mobile bins and bin caps that facilitate the separation of materials for recycling. Groups who agree to separate recyclables from other waste and reduce the amount of waste they generate are able to borrow the trailer free of charge for use at their events. Although this is a new initiative, the response from community groups to date has been very positive.

Council will investigate the current support for public event organisers regarding waste management. This will include a review of the potential for waste information packs to be sent to person(s) applying for a public events licence within South Gippsland.

6.10. Public Place Recycling (PPR)

Council intends to implement a Public Place Recycling (PPR) system throughout the Shire in accordance with Sustainability Strategy number 1.3.8 and with the GRWGM DRAFT Gippsland Regional Waste Management Plan. The online survey indicates that the public support Councils PPR plans with 44 people responding to Question 21, 41 of which confirmed that they would use PPR bins if they were provided.

Figure 18: Online survey response - public place recycling bins



The provision of PPR bins has traditionally been undertaken through providing a separate bin for the collection of recyclables next to a Public Litter Bin (PLB). This system provides the public with a clear message that Council is serious about diverting waste from landfill, however, it can prove to be costly to Council. The increased cost occurs as a result of the initial capital cost for the installation of the PPR bin, increased maintenance costs and the need for two separate collection rounds to be undertaken (one for garbage one for recyclables).

A number of Victorian councils have recently used a different method to achieve increased public place recycling. These councils have undertaken a waste audit of their PLBs and identified that recyclables make up a significant proportion of the waste present. These Councils have then approached their local Materials Recycling Facility (MRF) and negotiated a cost for the receipt of the PLBs material.

The MRF charges a higher tonnage rate for the material from the PLB due to the usual higher level of contamination. However, whilst the cost per tonne is higher, it is not double. Therefore, whilst the method costs more per bin there are nearly half the number of bins and the overall cost of the system is less than operating traditional PPRs. The system also provides a benefit in that all of the public litter waste is captured and sent to the MRF maximising the tonnage of material diverted from landfill.

To ensure that the public are aware that the waste from public Litter Bins (PLB) are now being sent for recycling, Council will provide large signs on the bins stating the change to the management of the waste.

The implementation of this system does have a number of caveats, for instance PLBs in parks should not be sent to the MRF due to the presence of dog faeces. In such instances Council will install a separate PPR bin and these can be collected with the PLBs that are to be sorted at the MRF. PLBs that cannot be sent to the MRF are then collected in the weekly household garbage collection or in a separate collection round.

Council will undertake waste audits of PLBs in key locations such as high streets, near high tourism areas and key community facilities (such as sporting ovals) during peak holiday season and the winter. The results of these waste audits will identify if PLBs have a suitable proportion of recyclables to warrant either the provision of a PPR next to them or their diversion to the MRF facility. Council will also enter into discussion with the current MRF provider to identify if they are willing to receive PLB material.

Once Council has undertaken the waste audits and discussions with the MRF operator it will make a decision regarding which method of public litter and waste recycling that will be implemented in South Gippsland.

6.11. Waste Education

Waste education is increasingly recognised as an important method for ensuring optimal waste management within the community. It is targeted at all levels of the community from Council to businesses to children at school; all of these have an important role in implementing the waste management goals of the Shire.

A specific waste education strategy was written in 2004 and the 2007 WMS was designed to incorporate a waste education strategy. However, responses to the current waste education provided by Council during consultation indicate that the public believe Council could improve its waste education, with over a third of respondents stating that the current system could be improved or was poor, see Figure 12 above.

Consideration needs to be given to the level of resources required to understand how previous Council waste education has impacted public understanding of waste management services in South Gippsland Shire and to identify the successful and unsuccessful methods employed. This should also include identifying areas or households in the Shire that need to be specifically targeted by future education programs.

Council will undertake an assessment of the waste education actions already completed, the waste impacts of the action and how they can be developed over the next 10 years. Council will also work with the GRWMG education officers to identify opportunities to work together on achieving waste education goals.

A specific area that Council will review with regard to the education strategy is how to approach households that repeatedly misuse the kerbside collection bins that they are provided. This is further discussed below.

Waste education systems that Council will review implementing include, but are not limited to:

- Supporting the Australian Sustainable Schools Initiative (AUSSI schools)³⁴.
- School and community group tours of landfill and Material Recovery Facilities (MRF).
- Positive reinforcement sticker campaign. Research has shown that one of the best ways to encourage the public to use the recycling bins and garbage bins correctly is to give households that use the system successfully sticker on their bin that identifies their success. Households that do not receive the sticker receive a pamphlet highlighting why they have not received the sticker.
- Refresh the council website with details on what the benefits of waste minimisation and recycling are, along with specific detail of what happens with the material arising in the Shire.
- Encourage community group action and education on landfill diversion.

³⁴ <http://www.environment.gov.au/education/aussi/>

6.12. Enforcement

The current waste collection contract contains a requirement for the contractor to note and record households that misuse the kerbside collection bins. Households found to be misusing the bin are recorded and monitored to ascertain if it is a regular occurrence.

Once regular misuse of the kerbside collection system is identified a Council will undertake a process whereby education and ultimately enforcement actions are utilised. An outline of this process is provided below:

- Households that do not use the kerbside collection service correctly provided with a leaflet explaining what should go into their two bins.
- If households still do not achieve the correct usage of the two bins provided then Council or the kerbside contractor should arrange for an education officer to visit the resident to explain how to use the bins and future consequences should the two bins not be used correctly.
- If the household still does not utilise the bins correctly then Council will begin enforcement action with a statutory fine applied to the household.

Council will also start increasing the prosecution rate for littering and illegal dumping incidents should they persist to be an issue once the proposed actions of this WMS are undertaken. If they do persist Council will review the provision of technology to aid in the capture and prosecution of offenders including the use of CCTV and mobile camera units.

6.13. Support Community Efforts

The community is the foundation of South Gippsland. Council supports actions by community groups to further landfill diversion through minimisation and recycling. Where practicable, Council will provide financial, mechanical, human resources and political support for initiatives that strive to improve South Gippsland environment. Such initiatives include, but are not limited to:

- going plastic bag free (See Appendix I);
- community composting groups;
- banning the sale of bottled water;
- action/clean up days;
- community gardens; and
- new and novel ideas from the South Gippsland community.

Council will also review the potential to set up an annual award that recognises community groups which help ensure South Gippsland moves towards a zero waste future. This award could potentially have a financial aspect to it.

7. Summary of Proposed Actions

7.1. Objectives and Priorities

This action plan captures the key recommendations of this Waste Management Strategy and provides recommended timelines for Council to achieve the recommendations. In undertaking these actions it is believed Council will move closer to achieving a 65% diversion of waste from landfill and the strategic goals of providing a high level of service in waste management that is legally compliant, financially sustainable and provides a high level of environmental confidence.

7.2. Summary of proposed actions

The following Action Plan has been developed to achieve identified long term objectives, detailed above, and address identified issues and opportunities for improvement detailed throughout the WMS.

Table 23: Outline of actions

	Action	Description	Section	Completion
1	Review of the WMS Action Plan	Action Plan to be reviewed on an annual basis providing a brief report to Council.	-	Annually
2	Waste audits	Co-ordinate with the GRWWMG to undertake waste audits of the kerbside collection bins, Public Litter Bins and transfer station bins to aid in understanding of how residents of South Gippsland are utilising the waste infrastructure provided.	-	To be done at least every three years.
3	Extension of current kerbside collection area.	Review the extension of the current kerbside collection service to Venus Bay and Walkerville. This will include survey of the households in the area to ascertain the level of support for the introduction of a service.	6.1.1	July 2011
4	Kerbside rural collection trial	Investigate the introduction of trial of the kerbside rural collection service described in section 6.1.2.	6.1.2	April 2012
5	Roll out of Kerbside rural collection	Consider the roll out of a kerbside rural collection service to all areas of the Shire that indicate they want the service through a survey of residents. Note this collection service will not be offered to areas receiving a kerbside collection service currently.	6.1.2	If the results of the trial indicate service is viable.
6	Provision of a voluntary 80L garbage bin to residents	Consider a clause in the next kerbside collection contract to allow for the provision of an 80L garbage bin to residents that desire the service.	6.1.3	February 2013
7	Provision of a voluntary 80L garbage bin to residents	Consider the potential benefits of offering an 80L garbage bin to residents in return for a reduction in their waste service charge.	6.1.3	January 2013

	Action	Description	Section	Completion
8	Review the standard garbage bin size to 80L and provide an option for a 120L bin	Consider the provision of a compulsory 80L garbage bin if review of the voluntary 80L garbage bin system indicates viability and benefit. This will need to coincide with the implementation of a new kerbside garbage collection contract.	6.1.3	January 2022 (note this is the end of the kerbside collection contract)
9	Target to reduce resource loss	Council will review the adoption of a target for reducing the loss of recyclables to the garbage bin to 5% by 2015. In 2015 Council will review achievement of this goal and identify a new target.	6.1.3	January 2015
10	Enter into discussion with neighbouring councils regarding co-contracting of waste services.	Council to open discussions with neighbouring councils to ascertain the level of willingness to enter into co-contracting for waste services such as kerbside collection, transfer station operation and future waste treatment options (including Advanced Waste Treatment and organic waste treatment plants)	6.1.4	June 2011
11	Align end dates of waste contracts with neighbouring council.	Only to be considered if discussion with one or more neighbouring councils provides clear indication that co-contracting is a viable option in the future. Council will seek a Memorandum of Understanding with the neighbouring council to provide assurance of future intentions.	6.1.4	Prior to drafting of future waste services contracts.
12	Roll out a kerbside green waste collection service in Leongatha and Korumburra	Investigate the potential to roll out a voluntary or compulsory green waste collection service in Leongatha and Korumburra. Once the decision is made Council to go to tender for a green waste collection service to these townships.	6.3.1	January 2012
13	Expansion of kerbside green waste collection	Review of the kerbside green waste collection service provided to Leongatha and Korumburra to occur one year after service commencement. If it is found that kerbside green waste collection is a successful service then Council will review expansion of the service to areas that want a kerbside green waste collection.	6.3.1	January 2013 - onward
14	Investigate co-collection of Kitchen organics and Green waste.	If a kerbside green waste collection service has been rolled out successfully across the Shire, Council will investigate the co-collection of kitchen organics in the kerbside green waste bin.	6.3.3	January 2018
15	Investigate commercial food waste collection	If kitchen organics collection and treatment is successful then a review will be undertaken of the potential to provide a kerbside organic collection system to large organic waste generators in South Gippsland including but not limited to restaurants, cafes, super markets etc.	6.3.2	January 2020
16	Support for home composting	Review the provision of a subsidised home composting bin to residents willing to undertake a quick and easily accessible training session, potentially online.	6.3.4	January 2014
17	Organic waste treatment facility support	Support the Gippsland Regional Waste Management Group in its efforts to identify a method for the collection and treatment of organic waste in the Gippsland Region.	6.7.7	Ongoing

	Action	Description	Section	Completion
18	Organic waste treatment facility support	Encourage discussion with neighbouring councils on the potential for co-contracting an organic waste treatment facility locally.	6.1.4	January 2014
19	Hard waste collection landfill diversion	Ensure new contractor for the booked collection of hard waste separates recyclable and reusable items from the waste collected.	6.4.1	June 2011
20	eWaste collection	Ensure that eWaste is collected separately by the hard waste collection contractor and at transfer stations. Identify methods for the recycling or disposal of eWaste. Implement an eWaste charge at Transfer Stations to cover the cost of treatment/disposal.	6.4.2	January 2012
21	Review of transfer stations signage	Review signage at transfer stations to ensure colour coded for different materials and uniformity across the transfer stations. Action to be undertaken by the current transfer station contractor.	6.5.1	January 2012
22	Construction of reuse shops	Investigate the business case for a 'Reuse Shop' at a minimum of one, but preferably two, transfer stations in the Shire. All transfer stations to identify reusable objects to be sold at the 'Reuse Shop'.	6.5.2	June 2012
23	Construction of reuse shops	If the business case for the 'Reuse Shop' indicates that it is viable then, subject to available funding support, Council will construct the facilities identified in the business case. Council will encourage local social enterprises to undertake operation of the 'Reuse Shop'.	6.5.2	January 2014
24	Mattress collection and recycling	Continue to separate all mattresses from other wastes at transfer stations for recycling at transfer stations.	6.6.1	January 2012
25	Transfer station mattress gate fee	Implement a specific gate fee for the acceptance of mattresses.	6.6.1	June 2011
26	Provision of a transfer station green waste charge	Consider a gate fee for the acceptance of green waste at transfer stations. The fee could be waived during an amnesty period prior to the fire season each year. Commercial loads could be charged all year round.	6.6.2	June 2012
27	Review of current landfill contract	Review the wording of the current landfill contract. Negotiation to be held with the current contractor to introduce a system that rewards the contractor for diverting waste from landfill. If this is not possible then Council will ensure that future contract contain such provisions.	6.7.2	January 2012
28	Review of current transfer station contract	Review the wording of the current transfer station contract. Negotiation to be held with the current contractor to introduce a system that rewards the contractor for diverting waste from landfill. If this is not possible then Council will ensure that future contract contain such provisions.	6.7.2	January 2012
29	Construction of a Commercial Resource Recovery Centre	Identify a viable site for a commercial resource recovery centre. A business case will be developed to ensure that such a facility is a cost effective mechanism for achieving landfill diversion. Should the	6.7.4	January 2015

	Action	Description	Section	Completion
		business case indicate the facility is viable then Council will look at obtaining funding support for its construction from State or Federal Government.		
30	Council planning process review	Council planning department to review current requirements for ensuring that new building applications allow adequate space for waste infrastructure in building applications.	6.7.5	January 2012
31	Council planning – waste management plan requirement	Council planning department to review a requirement for planning applicants to submit a waste management plan with building applications.	6.7.5	January 2013
32	Monitoring of littering and illegal dumping	Measure, record and report littering within the Shire in accordance with Victorian Litter Action Alliance guidelines.	6.8	January 2013
33	Enforcement of littering and illegal dumping hot spots.	If the proposed expansion of the kerbside waste collection service not curtail littering and illegal dumping then Council will investigate the need for CCTV and mobile cameras to be used at littering and illegal dumping ‘hot spots’.	6.8	As appropriate
34	Littering and illegal dumping funding support.	Identify State Government funding opportunities for the support of projects and resources aimed at improving litter management and enforcement.	6.8	June 2011
35	Waste audits of public litter bins.	Undertake waste audits of Public Litter Bins (PLB) to ascertain potential volumes of recyclables.	6.10	June 2011
36	Potential diversion of public litter to a MRF.	Undertake discussions with Material Recovery Facilities (MRF) to ascertain the potential for the diversion of Public Litter Bins (PLB) waste to the MRF rather than the landfill.	6.10	June 2011
37	Identification of structure for the implementation of public place recycling	Evaluate Public Place Recycling (PPR) either through diversion of Public Litter Bins (PLB) to a MRF or through the provision of separate PPR bins next to PLBs in areas of high footfall and use. If Council opts for the implementation of PPR then the strategy will identify a timeline for the roll out of the PPR infrastructure required.	6.10	June 2012
38	Improve waste management education	Identify successful waste education systems used and ensure waste management education to the community aimed at promoting waste minimisation, recycling, recovery and protection of the environment.	6.11	ongoing
39	Identify successful enforcement activities	Continue to prosecute littering and dumping offences in accordance with the Environmental protection Act and Local laws. Maintain a list of successful enforcement for annual review.	6.12	ongoing
40	Support community action	Support community groups and action to divert waste from landfill.	6.13	ongoing
41	Provide a community award	Review the potential for a South Gippsland Community Waste Award.	6.13	January 2016

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APPENDIX A - MAPS

APPENDIX B – 2007 WASTE MANAGEMENT STRATEGY ACTIONS

APPENDIX C – SUMMARY OF KEY LEGISLATION

APPENDIX D – ONLINE SURVEY AND RESULTS

APPENDIX E – PUBLIC FORUM POSTERS AND FEEDBACK

APPENDIX F – KEY STAKEHOLDER GROUPS FEEDBACK

APPENDIX G – SUSTAINABILITY STRATEGY - WASTE FEEDBACK

APPENDIX H – CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT PLANS

APPENDIX I – PLASTIC BAG FREE COMMUNITIES INFORMATION