

# Waste Management and Minimisation Plan 2012



**Reduce**



**Reuse**



**Recycle**



**Recover**



**Treat**



**Dispose**

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# 1 Foreword

This document is the Council's new Waste Management and Minimisation Plan (WMMP) as required by the Waste Minimisation Act 2008 effective from 1 July 2012. It replaces the Rubbish and Recycling Solid Waste Plan 2003.

The vision in the WMMP has been reshaped to take into account the requirements in s44 of the Act for territorial authorities when preparing, amending or revoking plans to, amongst other things, (a) consider the following methods of waste management and minimisation (listed in descending order of importance)

- (i) reduction:
- (ii) reuse:
- (iii) recycling:
- (iv) recovery:
- (v) treatment:
- (vi) disposal:

The vision also encompasses the goals of the New Zealand Waste Strategy which are to:

- (a) reduce the harmful effects of waste; and
- (b) improve the efficiency of resource use.

The Timaru District Council's vision for waste management and minimisation is:-

***“A sustainable community that is able to reuse, recycle and recover discarded resources and minimise residual waste to landfill, while ensuring protection of public health and the environment.”***

In developing the WMMP, the Council conducted a waste assessment by undertaking a full review of current solid waste services in the Timaru District, forecasting future demand and putting forward options for consideration in the plan. The goal promoted in the 2003 plan alongside the vision was to achieve zero waste by 2015, with an interim target of 80% diversion in 2010. The innovative three bin system implemented in 2006 and other waste minimisation activity have resulted in a 54% diversion of waste in 2010/11 against the baseline year of 2005/06.

Zero Waste to landfill is not achievable in the term of this plan and concurrent LTP due to the rising cost and difficulty of diverting small amounts of more difficult materials from landfill. The goal for the next 10 years is to maintain the status quo aiming to increase the efficiency of the current services, and to implement some new waste minimisation activity with waste levy funding.

Janie Annear  
Mayor

## 2 Executive Summary

### 2.1 INTRODUCTION

The Waste Minimisation Act (WMA) 2008 s50, requires every territorial authority to adopt a Waste Management and Minimisation Plan (WMMP) by 1 July 2012. As a prerequisite to the WMMP, under s50 of the WMA, the Council undertook a waste assessment to provide a status report of solid waste activities in 2011. This document is a draft WMMP for consideration by the community under the special consultative procedures set out in s83 of the Local Government Act 2002.

This WMMP will also complement the development of the Council's Long Term Plan (LTP). Previously, Council has included an Activity Management Plan (AMP) for solid waste in the LTP. There are several areas of duplication in the requirements for the WMMP and for the Solid Waste AMP. This plan will incorporate the requirements required under the WMA 2008 for a WMMP and for an AMP required under the LGA 2002.

This plan is prepared for the management of solid waste within the Timaru District and will encompass a vision, objectives, methods and policy that will apply to the Council, private solid waste service providers and the community as a whole for the period from 1 July 2012 until 30 June 2018, when the plan will be formally reviewed.

### 2.2 VISION AND GOALS

#### Vision

*"A sustainable community that is able to reuse, recycle and recover discarded resources and minimise residual waste to landfill, while ensuring protection of public health and the environment."*

#### Goals

1. Protection of public health from solid waste.
2. Protection of the environment from solid waste.
3. Provide effective and efficient solid waste services in a sustainable manner.

### 2.3 SOLID WASTE SERVICES

In particular, the Council will provide the following services:

- A kerbside collection service to urban and some rural properties for organic waste, recycling and rubbish.
- Transfer Station facilities at Geraldine, Pleasant Point, Timaru (Redruth) and Temuka to enable separation and transport of materials for reuse, composting, recycling and residual disposal.
- A landfill at Redruth.
- Recycling and composting facilities at Redruth.
- A retail shop for reusable materials at Redruth called "The Crow's Nest".
- A large goods collection service for reusable materials.
- A scrap metal recycling site at Redruth.
- E-scrap drop-off.
- Household hazardous waste drop-off facilities.
- Public litter collection.
- Litter and illegal dumping enforcement.
- Information and education resources.
- A Waste Exchange listing service via Christchurch City's website.

- Resources and support for public events, as well as implementation of business/community waste minimisation programmes.
- Management and administration of the above services. This includes undertaking a strategic overview using the waste assessments and community requirements to forecast, plan and develop initiatives.

## 2.4 SIGNIFICANT ISSUES

### Further Waste Minimisation

There is scope to reduce further the quantity of waste being landfilled, particularly timber and putrescible sewage millscreening and other industrial screenings.

The Council has introduced a bylaw to ban a range of materials from being disposed of into the landfill. To date, the bylaw only applies to permitted trucks disposing of waste direct to the landfill. The bylaw has not been enforced for other waste pathways.

The Council should now consider providing recycling containers for public places.

There is scope to find more solutions for materials currently not collected for recycling, e.g. soft plastic bags and styrofoam trays. The Council should lobby adjoining authorities and national forums to seek assistance to help stimulate new markets and solutions for these materials.

### Emissions Trading Scheme

The Council will be faced with additional costs in 2013 to meet statutory Emission Trading Scheme obligations. Budget estimates have allowed for the Council having to pay \$27.50 (excluding GST) per tonne for waste disposed of to landfill. The market cost for carbon units, however, is considerably lower and it is likely a liability of \$10-\$16.50 (excluding GST) per tonne will be incurred. Council needs to consider further waste minimisation and other measures to reduce the ETS obligation.

### Disposal Fees

Council collects revenue from customers disposing of waste at the landfill and transfer stations. As landfill waste quantities have reduced in recent years, so has the income generated from waste disposal which has supported waste activity in the past.

## 2.5 SERVICE CAPACITY

The compost facility has a capacity to process 16,000 tonnes. At current rates of growth, the existing site may require extending, possibly by 2015 .

At current rates of landfilling, the Redruth landfill has an estimated life span of 40-50 years.

There is ample capacity at the rural transfer stations for collection of a range of materials, but the Redruth site needs to be developed to allow for comprehensive resource recovery.

The Materials Recovery Facility has considerable capacity for sorting the recyclables and could accept more materials from other sources.



The kerbside collection fleet has sufficient capacity until the end of the contract in 2021.

## 2.6 WASTE MINIMISATION PROGRESS

Good progress has been made since 2005/06 with the introduction of the three bin kerbside system and other initiatives to reduce waste being disposed of to landfill.

**Table 1: Waste Minimisation**

District	Baseline Tonnes		2010/11	Diversion achieved %	Waste to landfill %
Timaru	2005/06	44,113	20,475	54%	46%



*Small bins placed in offices, staff areas and schools help sort waste in internal areas. Correct disposal to the three bins is then much easier.*



*A standard set of three bins comprises of a 240 green lid bin for organics collected weekly, a 140 litre red lid bin for rubbish collected on alternating fortnights with the 240 litre yellow lid bin for recycling.*

## 2.7 TRACKING PROGRESS

The LTP indicators are summarised below.

**Table 2: Long Term Plan Performance Measures**

No.	Year	Measure	Target	Ref
<b>1</b>	<b>Regular kerbside collection services to enable separation of waste for recycling and compost.</b>			
	2012/13	Number of missed bins at kerbside.	538 bins missed per annum Increasing at 8 bins (1.5%) per year due to increasing numbers of bins.	10.7 p48
<b>2</b>	<b>Solid waste is diverted from landfill via materials recovery facility.</b>			
	2012/13	Recycling tonnages diverted. Gross tonnes processed at MRF.	5,500 tonnes in 2012/13. Increasing at 100 tonnes per year.	15.9 p68
<b>3</b>	<b>Solid waste is diverted from landfill via composting facility.</b>			
	2012/13	Organic tonnages diverted. Gross tonnes processed at composting facility.	14,500 tonnes in 2012/13. Increasing at 400 tonnes per year.	16.9 p74
<b>4</b>	<b>Solid waste is diverted from landfill via reuse and other recycling.</b>			
	2012/13	Tonnages diverted from reuse shop and transfer stations directly. Gross tonnes diverted.	386 tonnes in 2012/13. Increasing at 1 tonne per year.	14.9 p64
<b>5</b>	<b>Waste minimisation facilities are adequately provided.</b>			
	2012/13	Overall and user satisfaction with waste minimisation services.	Overall satisfaction-75%. User satisfaction-80%.	12.9 p58
<b>6</b>	<b>No adverse effects on the environment or human health from the operation of solid waste facilities.</b>			
	2012/13	Compliance with resource consent conditions* *(other than for minor breaches)	Full compliance with resource consent conditions*	20.7 p93

No.	Year	Measure	Target	Ref
<b>7</b>	<b>Public information and education ensures waste is sorted appropriately</b>			
	2012/13	Contamination levels are recorded for: <ul style="list-style-type: none"> <li>the organic facility</li> <li>the MRF</li> </ul>	1% of gross tonnes in 2012/13 (reducing by 0.1% per year). 25% of gross tonnes in 2012/13 (reducing by 1% per year).	16.9 p74 15.9 p68
<b>8</b>	<b>Public information and education promotes waste minimisation</b>			
	2012/13	Opportunities exist for the public to learn about waste minimisation through talks and tours, business support and events support: <ul style="list-style-type: none"> <li>Numbers of business assistance</li> <li>Zero waste events</li> </ul>	52 businesses assisted per annum 25 events supported per annum	19.9 p90
	2012/13	Kerbside waste to landfill per red bin pickup reduces	12 kg per bin reducing at 0.5 kg per year	19.9 p90

The following indicators are in addition to the performance measures for the LTP.



**Table 3: WMMP Indicators**

<b>Economic</b>	The Council sets 10 year budgets in the Long Term Plan (LTP) and refines these every year with the Annual Plan. The Council has to provide reasons in the Annual Plan as part of the consultative procedure for any significant departure from the budgets set in the LTP and provide reasons for any significant departure during the financial year in the Annual Report. The Council undertakes budget monitoring monthly.
<b>Environment</b>	The main indicators for the environment are: <ul style="list-style-type: none"> <li>the quantity of waste landfilled which will be used to measure the Council's ETS obligation and waste levy.</li> </ul>
<b>Social</b>	The main indicators for this are: <ul style="list-style-type: none"> <li>the number of people employed full time (FTE).</li> <li>numbers of work and site injuries.</li> <li>Customer complaints.</li> <li>Customer satisfaction- every 3 years.</li> <li>Crow's Nest customers.</li> </ul>
<b>Cultural</b>	Council staff will undertake annual liaison with the local iwi to discuss any concerns with regard solid waste activities.



*This image features on the cover of the Ebook, a new initiative to be launched on the Council website, featuring an electronic book providing a comprehensive range of information about waste and broader related issues designed for easy navigation and reading.*

## 2.8 WMMP OPTIONS FOR CONSIDERATION

Taking into consideration community consultation and the allocation of budgets for the Council Long Term plan, the Council will include or exclude these options from the final WMMP.

**Table 4: Kerbside Collection Options** (refer 10.8 p49)

Item	Description	Explanation	Budget	Time	Status
1	Review collection service in 2017.	The WMMP has to be reviewed every 6 years. Undertake the review prior to 2018 and before the collection contracts expire in 2021.	N/A	2017	Recommended
2	Every 5 years, prior to the statutory review of the WMMP, undertake random visual sample of bins to determine composition and help with any planning for WMMP.	Will provide useful information for monitoring and strategic planning.	Use existing budget	2017	Recommended
3	Install public place recycling facilities in highly used areas.	See chapter 12 Public Places and Events.	To be confirmed after project options are considered	2013/14 + 3 years	Recommended
4	Review the services and the charges for the CBD service.	CBD receives a weekly service, but pays the same rate as householders who receive a fortnightly service. Increased rate would establish parity across all bin users in relation to services received.	N/A	2013/14	Recommended

**Table 5: Transfer Stations Options** (refer 12.10 p58)

Item	Description	Explanation	Budget	Time	Status
1	Polystyrene: investigate options for receipt of smaller quantities with payment.	Some customers may wish to dispose of polystyrene appropriately in small quantities. Currently, only commercial quantities are received. Due to its high volume and high handling and processing cost a charge must be made.	N/A	2012/13	Recommended
2	Tyres: Determine methodology for collection, storage and end use.	Tyres need to be eliminated from tyre dumps and the landfill as they cause a range of issues; they must be recycled in an environmentally responsible manner.	N/A. System will be user pays.	2012/13	Recommended
3	Develop Resource Recovery Park at Redruth transfer station.	Will enable improved drop-off facility for public, improving resource recovery and reducing waste to landfill.	\$345,000	2014/15-2015/16	Recommended
4	Investigate waste sorting at Redruth transfer station.	Will enable improved waste minimisation diverting materials from residual waste.	\$10,000	2016/17	Recommended
5	Implement waste sorting at Redruth transfer station.	Will enable improved waste minimisation diverting materials from residual waste.			Future Option

**Table 6: Reduction Options** (refer 13.10 p61)

Item	Description	Explanation	Budget	Time	Status
1	Increase Council Solid Waste Unit staff to 3.5 FTE	Will be able to work with more businesses and organisations, facilitating knowledge sharing and implementation of waste reduction.	\$50,000		Future Option
2	Fund Sustainable Living Programme		\$1,500	2012/13	Recommended

**Table 7: Reuse Options** (refer 14.10 p64)

Item	Description	Explanation	Budget	Time	Status
1	Stabilise Crow's Nest funding at \$60,000 per annum (flat).	Establishes platform for initiating other ventures.	\$60,000 existing	2012/13 on	Recommended

**Table 8: Recycling Options** (refer 15.10 p69)

Item	Description	Explanation	Budget	Time	Status
1	Encourage recyclables from other locations to be processed at the MRF.	Will help the MRF run at capacity and reduce costs.	Existing	2012/13	Recommended
2	Be proactive in trying to facilitate initiatives for improved recycling of plastics that are currently landfilled.	Will stimulate market development and waste minimisation.	Existing	2012/13	Recommended

**Table 9: Recovery Options** (refer 16.10 p75)

Item	Description	Explanation	Budget	Time	Status
1	Develop an extended maturation area for compost.	To provide area for increased quantities of compost requiring maturation.	Existing budget \$20,000 p.a.	2013/14 on	Recommended
2	Develop new pads when organic tonnes exceed 16,000 tonnes per annum.	Current compost capacity is 16,000 tonnes pa. Need to add three bays.	\$250,000	2015-2019	Recommended
3	Investigate and implement options for timber recovery.	Potential 4,000 tonnes may be diverted from landfill, reducing ETS obligations.	To be confirmed	2013/14	Recommended
4	Investigate and implement options for special waste composting.	Potential 2,000 tonnes may be diverted from landfill.	To be confirmed	2013/14	Recommended

**Table 10: Treatment Options** (refer 17.10 pError! Bookmark not defined.)

Item	Description	Explanation	Budget	Time	Status
1	Investigate options to implement a small charge for hazwaste drop off.	To provide some cost recovery for this service from users.	N/A	2013/14	Recommended

**Table 11: Disposal Options** (refer 18.10 p87)

Item	Description	Explanation	Budget	Time	Status
1	Review of landfill viability.	Undertake regular reviews and explore options.	n/a	2012 On	Recommended
2	Ensure waste disposal options are included in emergency plans.	Emergency planning for solid waste will enhance ability to respond while maintaining a high level of compliance.	\$20,000	2012/13	Recommended
3	Complete capping of closed landfills.	Surface of closed landfills need complete caps to reduce storm water infiltration and leachate generation.	\$20,000	2012-2017	Future Option
4	Allocate funding for after-care costs.	Money needs to be set aside for the maintenance of the landfill during its post-closure period. The cost for this is \$5/tonne.	\$100,000pa.	2013 on	Recommended

**Table 12: Community Participation and Information Options** (refer 19.10 p90)

Item	Description	Explanation	Budget	Time	Status
1	Install public place recycling facilities in highly used areas.	Will improve public profile and waste minimisation. Enables public to sort in public as they would at home.	To be determined as options are assessed	2013/14 +3 years	Recommended



**Table 13: Public Health and Safety Options** (refer 20.8 pError! Bookmark not defined.)

Item	Description	Explanation	Budget	Time	Status
1	Add a requirement for Landfill Access Permit holders to submit a Health and Safety Plan.	The landfill site users must apply for a Landfill Access Permit, and due to the nature of the site, should recognise health and safety practice through the provision of a Health and Safety Plan.	N/A	1 July 2012	Recommended
2	Write a protocol regarding non-compliance with site rules.	Repeated non-compliance of site rules may require follow-up.		1 July 2012	Recommended

**Table 14: Environmental Protection Options** (refer 21.8 p97)

Item	Description	Explanation	Budget	Time	Status
1	Consider implementing an Environmental Management System.	A plan would provide comprehensive strategy for managing environmental issues.	Internal	2012/13	Recommended

**Table 15: Progress Sustainable Options** (refer 24.9 p109)

Item	Description	Explanation	Budget	Time	Status
1	Consider improved sustainability reporting for solid waste activities to enable data to be gathered and collated to benchmark future initiatives against.	Provides benchmarking for activities.	Internal	2016/17	Recommended

**Table 16: Financial Summary of Operating Expenditure 2013-2022**

Service	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total Recycling Costs	114,000	112,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000
Hazardous Waste Programmes	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Community Awareness	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Total disposal	3,305,000	3,305,000	3,317,500	3,305,000	3,305,000	3,305,000	3,305,000	3,317,500	3,305,000	3,305,000
Fee collection	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000
Management costs	185,900	185,900	184,500	184,500	184,500	229,500	219,500	219,500	219,500	219,500
Collection costs	2,290,500	2,290,500	2,290,500	2,290,500	2,290,500	2,290,500	2,290,500	2,290,500	2,290,500	2,290,500
Emissions Trading Scheme	72,600	146,200	146,200	146,200	146,200	146,200	146,200	146,200	146,200	146,200
Corporate	353,400	353,000	350,600	349,600	345,100	344,200	343,500	342,200	341,000	340,900

The narrative summaries for each area of capital expenditure are listed in section 28.6, p144.

**Table 17: Financial Summary of Proposed Renewals and New Capital Works 2013-2022**

Service	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Stage 3 development	50,000	180,000	1,350,000	0	0	220,000	0	0	70,000	1,330,000
Stage 2 development	0	25,000	0	200,000	0	25,000	0	25,000	0	25,000
Drainage	50,000	60,000	0	0	15,000	0	15,000	0	0	0
LFG	0	497,000	45,000	0	45,000	0	45,000	0	0	0
Roading	35,000	0	0	0	5,000	0	0	5,000	0	0
Transfer Stations	29,000	14,000	29,000	24,000	4,000	14,000	4,000	4,000	4,000	4,000
Compost site	20,000	250,000	240,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
W.O.L. plan	10,000	10,000	10,000	30,000	10,000	10,000	10,000	10,000	10,000	10,000
Landfill closure	73,400	73,400	73,400	73,400	73,400	73,400	73,400	73,400	73,400	73,400
Aftercare reserves	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000
New bins	48,500	48,500	48,500	48,500	48,500	48,500	48,500	48,500	48,500	48,500
Waste levy projects	15,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000
Resource Recovery Park	0	0	30,000	315,000	0	0	0	0	0	0

## 3 Introduction

### 3.1 PURPOSE OF THE PLAN

The Waste Minimisation Act (WMA) was introduced as legislation in 2008. Under the WMA s50, every territorial authority must adopt a Waste Management and Minimisation Plan (WMMP) by 1 July 2012.

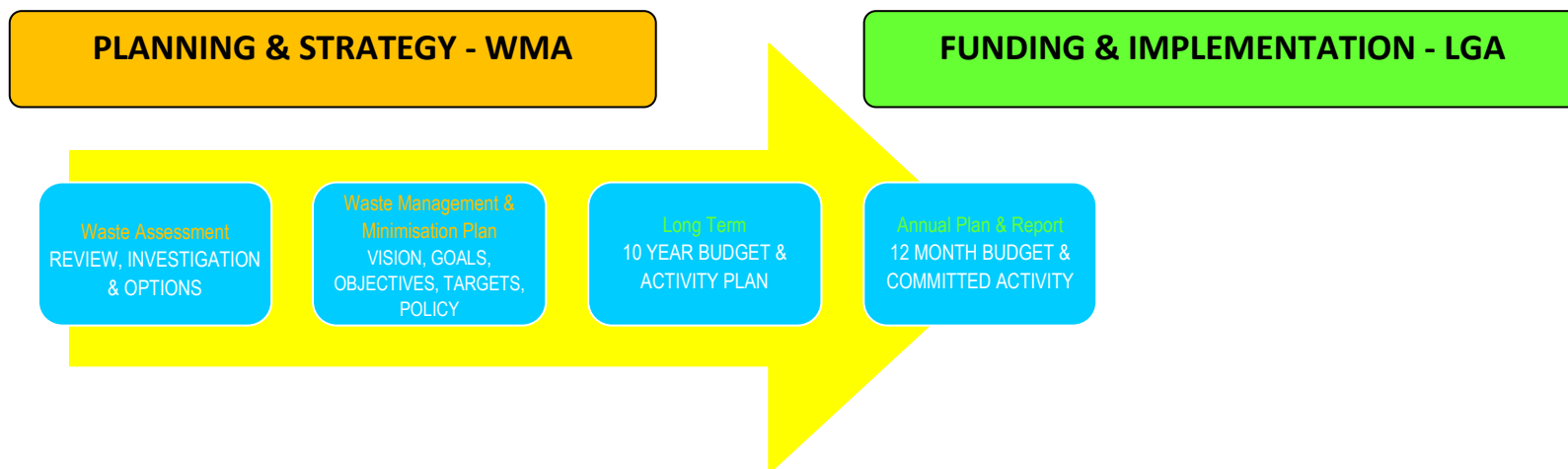
In accordance with s51 of the WMA, the Timaru District Council (TDC) must complete a waste assessment before completing the WMMP. The draft waste assessment was completed during September 2011 and sent to the Medical Officer of Health for comment.

This WMMP will provide the Council with a planning and strategy approach to managing the waste for the District while also ensuring legislative compliance with the WMA. The WMMP must go through the

special consultative procedure (SCP) prior to adoption by Council. In 2012, the WMMP will form part of the LTP's SCP.

The WMMP will also complement the development of the Council's Long Term Plan (LTP). Previously, Council has included an Activity Management Plan (AMP) for solid waste in the LTP. There are several areas of duplication in the requirements for the WMMP and for the Solid Waste AMP.

This plan will incorporate the requirements required under the WMA 2008 for a WMMP and for an AMP required under the LGA 2002.



### 3.2 SCOPE OF PLAN

The scope of this plan is to comply with the requirements of the WMA and LGA which are outlined in this section.

This plan is prepared for the management of solid waste within the Timaru District and will encompass a vision, objectives, methods and policy that will apply to the Council, private solid waste service providers and the community as a whole.

This plan does not address matters pertaining to liquid or gaseous waste, except small quantities that meet acceptance criteria for collection and disposal.

### 3.3 CURRENT STATUS OF PLAN

The current status of this plan is a draft version for consultation. The plan will be adopted by Council by 1 July 2012.

### 3.4 WHEN PLAN IS TO BE REVIEWED

This plan must be reviewed at least by 1 July 2018 and thereafter 6 yearly as required in the Waste Minimisation Act (s50). The Council may elect to review any or all aspects of the plan at any time prior to 1 July 2018 if they consider circumstances justify a review, (s43). Such timing may also coincide with a review of the annual plan or three yearly review of Council's Long Term Plan (LTP).

A waste assessment is required to precede each plan review, (WMA s51). While the Council may or may not make changes as a result of the review, any change to the plan will be subject to the special

consultative procedure as required in s44(e). The next waste assessment will be undertaken in 2017.



*Council waste minimisation officers work with Todd Mudie Plastering and Ricky Shore Building in 2010 to establish a gib recovery initiative. New gib offcuts are sent to the Redruth composting facility reducing waste to landfill.*

## 4 Vision, goals and objectives

### 4.1 OVERVIEW

Taken together, the vision, goals, objectives and targets form the high-level strategy for the WMMP.

The Council must strive to achieve the requirements of the WMA and the goals of the NZ Waste Strategy. The NZ Waste Strategy (2010) provides high-level direction to manage and minimise waste in New Zealand. The Strategy allows for a flexible approach that can be adapted to different situations.

**The following key sections are from the WMA:**

(s3), The purpose of the WMA is to encourage waste minimisation and a decrease in waste disposal in order to –

- protect the environment from harm; and
- provide environmental, social, economic, and cultural benefits.

(s42), A territorial authority must promote effective and efficient waste management and minimisation within its District.

**The following goals are from the NZ Waste Strategy:**

1. Reducing harmful effects of waste.
2. Improving resource efficiency use.

### 4.2 VISION FOR THE FUTURE

***“A sustainable community that is able to reuse, recycle and recover discarded resources and minimise residual waste to landfill, while ensuring protection of human health and the environment.”***

The vision is a statement of community expectations for the management of solid waste and protection of our environment and health from solid waste.

We all aware of the increasing amounts of waste we produce and the one way flow of materials to the landfill. To continue with a linear flow of materials to the landfill is an inefficient use of resources which will impact on future generations.

### 4.3 ZERO WASTE

In 1999, the Council adopted a target of zero waste to landfill by 2015. The 2011 waste assessment identified the quantity of waste being landfilled was 46%. The Council has made good progress in diverting 54% of waste from disposal to landfill. It is possible to reduce the quantity being landfilled down to 20% with significantly more expenditure and resources. To achieve zero waste to landfill will not be affordable in the short term, however, Council will continue waste minimisation efforts to reduce waste and divert waste streams from landfill wherever possible.

The zero waste target was part of a national movement to help improve waste minimisation practices for New Zealand. While the overall target of zero waste is the ideal, it is proposed in this plan to maintain levels of service at the status quo and set targets in the LTP performance measures to increase the efficiency of levels of service.

### 4.4 GOALS

In considering the NZ Waste Strategy goals, it is likely that for some aspects of the solid waste activities there will be limitations such as resources, financial and practical implementation that will restrict the



ability of the Council to "reducing effects" or "improving efficiency". Therefore, the goals for the WMMP are as follows:

1. **Protection of public health from solid waste.**
2. **Protection of the environment from solid waste.**
3. **Provide effective and efficient solid waste services in a sustainable manner.**



*A staff member at the compost facility operates the cover winder to lay a GORE™ cover over a windrow. The covers maintain temperature and moisture levels and contain odour while also providing a barrier against vermin. The system implemented in 2006 with the introduction of the 3-2-1 ZERO bin system produces high quality compost.*

## 4.5 GOALS, OBJECTIVES AND METHODS

The objectives and methods to achieve the goals are outlined as follows:

### Goal 1: Protection of public health from solid waste.

Objective 1.1: Ensure health and safety risks are either reduced, eliminated, isolated or mitigated.

### Goal 2: Protection of the environment from solid waste.

Objective 2.1: Ensure environmental risks are either reduced, eliminated, isolated or mitigated.

Category	Methods	1.1	2.1
Collection	Provide regular kerbside collection of rubbish to urban centres and nominated routes.	✓	✓
	Provide wheelie bins for rubbish collection.	✓	✓
	Provide four transfer stations for public to take solid waste to in compliance with legislative requirements.	✓	✓
	Provide household hazardous waste drop-off facilities at transfer stations.	✓	✓
	Provide public place litter bins and collection (managed by LTU).	✓	✓
	Provide litter and illegal dumping enforcement (managed by Regulatory Services).	✓	✓
Reduction	Provide Target Sustainability programme to selected businesses.	✓	✓
	Provide Council staff resources and information for waste reduction.	✓	✓
Reuse	Ensure that goods and items reused are safe for use.	✓	
	Provide services for the collection, drop-off and sale of reusable items.		✓
	Facilitate a waste exchange service.		✓
Recycling	Ensure that recycling of collected commodities is undertaken in a manner not detrimental to human health.	✓	
	Provide scrap metal drop-off facility.		✓
	Provide escrap drop-off facility.		✓
	Provide sorting facility for recyclable materials.		✓

Category	Methods	1.1	2.1
Recovery	Ensure that health and safety information is provided for compost sold.	✓	
	Ensure that oil processing/utilisation-burning or wood chip for burning is undertaken in a manner not detrimental to human health.	✓	
	Provide compost facility in compliance with resource consents.	✓	✓
	Provide oil drop-off sites.		✓
Treatment	Ensure that any treatment of waste including stabilisation of waste before landfilling is not detrimental to human health.	✓	✓
Disposal	Provide a landfill for safe disposal of waste in compliance with legislative requirements.	✓	✓
	Monitor closed landfill sites.	✓	✓
General	Have in a place a health and safety management system for all solid waste services.	✓	
	Utilise contractors who have a health and safety system as a priority to reduce harm to their staff.	✓	
	Utilise the Council solid waste bylaw as necessary for protection of health and environment.	✓	✓
	Provide the public with information on health, safety and environmental issues.	✓	✓
	Have in a place an environmental management system for all solid waste services to ensure compliance with the Resource Management Act.		✓

### Goal 3: Provide effective and efficient solid waste services in a sustainable manner.

#### Objective 3.1: Achieve effective services

Category	Methods
General	Minimise waste disposed of to landfill and maximise materials diverted from landfill.
	Consider new methods, systems, innovation and new technologies to improve waste minimisation.
	Establish benchmark values and measure trends.
	Set targets as nominated by Council from time to time.
	Monitor and record performance measures.
	Measure levels of service and community satisfaction.
	Provide services to meet the requirements of the community and legislative requirements.
	Provide the community with information and feedback on solid waste services.

### Objective 3.2: Achieve efficient services

Category	Methods
General	<p>Contract services by competitive tender where nominated by Council.</p> <p>Monitor and review the costs, utilisation and benefits of services.</p> <p>Consider innovation and new technologies for improved efficiency taking into consideration cost and benefits.</p> <p>Foster on-going improvement and innovation.</p> <p>Measure missed services for the kerbside collection.</p> <p>Measure contamination levels from waste minimisation activities.</p> <p>Inform the community on what to do and provide feedback on solid waste services.</p>

### Objective 3.3: Progress sustainable concepts

Category	Methods
General	<p><b>Economic</b></p> <p>Set budgets that are affordable for the community, taking into consideration costs over variable terms.</p> <p>Utilise economic tools to encourage waste minimisation.</p> <p>Achieve efficient solid waste services.</p> <p><b>Environment</b></p> <p>Achieve objective 2.</p> <p><b>Social</b></p> <p>Achieve objective 1.</p> <p>Provide levels of service that the majority of the community is satisfied with.</p> <p>Promote utilisation of local people and resources for solid waste services.</p> <p>Promote further opportunity for potential job creation and industry development.</p> <p><b>Cultural</b></p> <p>Liaise with local tangata whenua and iwi to identify concerns, issues and opportunities with regard to solid waste.</p>

#### 4.6 GUIDING PRINCIPLES

It is necessary to have guiding principles to guide the development of the solid waste plan, in conjunction with national and global waste management requirements.

1. Commitment of the Mayor, Councillors, Community Board members and Timaru District Council staff towards excellence in Environmental Management.
2. That the Timaru District Council leads by example to promote environmental care through Council's influence over others.
3. That high standards are established for environmental and waste management to exceed relevant legislative requirements.
4. That the Council recognises its global responsibility through the relevant principles from the United Nations Agenda 21.
5. Utilise the integrated waste management methods of: Reduce, Reuse, Recycle, Recover, Treatment and Disposal.
6. That waste management methods are developed to ensure ecologically sustainable development.
7. To change the mindset of "rubbish" as a throw away material, so that it will be considered a resource with further beneficial use.
8. That where appropriate try to utilise resource materials for local benefit wherever possible.
9. That manufacturers and waste generators recognise the life cycle impacts of their waste.
10. Promote and encourage open and public discussion along with community consultation.
11. Consult with Tangata Whenua to identify values.
12. That performance indicators are developed to monitor and review the waste plan.
13. That the true costs for waste management are identified which include economic, environmental, cultural and social costs.
14. That waste generators will have to progressively pay the true costs for disposing of waste.
15. That incentives or assistance may be considered to encourage reduction of waste and separation of materials.
16. That the principle of continuous improvement be applied to attaining high environmental standards.
17. That each individual has a duty of care for the Timaru District.
18. Support regional or national approaches to Solid Waste Management and incorporate regional or national initiatives when appropriate.



*Public place recycling bins installed in the market area at Caroline Bay as part of a public place recycling trial in 2011.*



## 5 Council's Intended Role

The Council's general role is to ensure compliance with all relevant legislation regarding solid waste pertaining to the Council.

In recognising the solid waste requirements of the community, the Council will provide and facilitate a range of core services to achieve the goals of this WMMP. By retaining control over some of the waste stream, as well as solid waste assets, the Council can maintain some control over the financial costs of solid waste management to the community.

In particular the Council will provide the following services:

- A kerbside collection service to urban and some rural properties for organic waste, recycling and rubbish.
- Transfer Station facilities at Geraldine, Pleasant Point, Timaru (Redruth) and Temuka.
- A landfill at Redruth.
- Recycling and composting facilities.
- A retail shop for reusable materials.
- A large goods collection service for reusable materials.
- A scrap metal recycling site.
- Escrap drop-off.
- Household hazardous waste drop-off facilities.
- Public litter collection.
- Litter and illegal dumping enforcement.
- Information and education resources for public and businesses.
- A Waste Exchange listing service.

- Zero waste public events, resources and support.
- Management and administration of the above services.
- (Refer section 9 Solid Waste Services for more detail.)

### 5.1 ASSET OWNERSHIP

The Council owns the following assets to enable a more cost effective solid waste solution for ratepayers.

- Redruth Landfill.
- Compost Site and Fixed Civil Works.
- Materials Recovery Building (not sorting equipment).
- Redruth Amenities Buildings.
- Redruth Transfer Station, including two weighbridges.
- Crow's Nest Reuse Shop.
- Rural Transfer Stations, including two weighbridges.
- Transfer Station Compactors and Containers.
- "Wheelie Bins" for Kerbside Collection.

## 5.2 COMMUNITY OUTCOMES

**Figure 1: Community Outcomes**

Group	Activity	Level of Contribution to Community Outcomes											
		High Quality Infrastructure to meet community and business needs		Smart economic success supported and enabled		Communities that are safe, vibrant and growing		People enjoying a high quality of life		A strong identity forged and promoted		A valued, healthy and accessible environment	
		Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary
<b>Waste Minimisation</b>	Compost, Recycling & Refuse												

## How the Solid Waste Activity Contributes to Community Outcomes

### **Quality infrastructure that meets community needs**

- The solid waste management system (including a three-bin collection system, four transfer stations, Redruth landfill, composting, recycling and reuse facilities) enables:
  - the best opportunity to separate household waste materials.
  - good provision of reuse, recycling, composting and rubbish disposal services.
  - modern, up-to-date processing facilities.

### **Strong, economic success supported and enabled**

- Recovery of waste material for reuse, recycling and composting creates revenue as well as scope for secondary industries.
- Reuse shop promotes economic activity for a niche market.
- Implementation of the solid waste plan has created additional employment.
- Processing of recycling offers niche markets for manufacturing.

### **Communities that are safe, vibrant and growing**

- Opportunities are available for residents to learn about waste minimisation.
- Opportunities for recycling extend from home to business to public places.

### **People enjoying a high quality of life**

- The collection and disposal of solid waste into the Redruth landfill helps protect human health.
- Provision of information helps inform and educate people about improved solid waste management and sustainability.

### **A strong identity forged and promoted**

- Effective management of solid waste contributes to a tidy and attractive district and promotes the Timaru district as sustainable and environmentally responsible.
- A system that minimises solid waste contributing to environmental sustainability engenders district pride.

### **A valued, healthy and accessible environment**

- Reduced environmental effects through the implementation of composting and recycling.
- Landscaping of facilities and closed landfill areas provide enhanced amenity areas (e.g. Saltwater Creek walkway).
- Landfill offers alternative recreational venue (e.g. SC Aeromodel Club).

### 5.3 PUBLIC HEALTH PROTECTION

The methods for achieving Goal 1 of the WMMP are to ensure the protection of public health.

The range and availability of solid waste services in the Timaru District provided by the Council, or by private waste operators, will ensure that public health is adequately protected in the District from solid waste. If the Council did not provide a regular collection service or provide disposal facilities, it is likely that there would be more illegal dumping, burning of waste and accumulation of waste on private property which would pose health risks and issues.

All facilities are operated in compliance with legislative requirements. The Redruth landfill has capacity for another 30-50 years subject to variable waste quantities and provides a safe disposal location for solid waste.

Litter and illegal dumping in public places is managed by the Council, while the Canterbury Regional Council manages dumping occurring in waterways.

Comprehensive health and safety management systems are in place to ensure that the public and staff are protected from harm at the various facilities.

Public information is available to warn the public of the risks with compost which is available for purchase in bulk and bags from Redruth, and by the bag from all transfer stations.

The Council's contractors will endeavour to ensure that materials sent to commodity markets are handled and processed in a manner that is not detrimental to human health.



*The collection drivers are an integral part of the 3-2-1-ZERO collection service providing regular pick ups of the bins and also monitoring compliance of materials placed in bins.*

## 6 Policies, Plans and Regulation

### Summary of Legislation that Affect the WMMP

This plan takes into consideration the requirements of the Waste Minimisation Act and the Local Government Act to provide a single document on solid waste for the Timaru District Council.

#### 6.1.1.1 WMA Requirements

##### s3. Waste Management and Minimisation Plans

- (2) A waste management and minimisation plan must provide for the following:
- a) objectives and policies for achieving effective and efficient waste management and minimisation within the territorial authority's district.
  - b) methods for achieving effective and efficient waste management and minimisation within the territorial authority's district, including—
    - (i) collection, recovery, recycling, treatment, and disposal services for the district to meet its current and future waste management and minimisation needs (whether provided by the territorial authority or otherwise); and
    - (ii) any waste management and minimisation facilities provided, or to be provided, by the territorial authority; and
    - (iii) any waste management and minimisation activities, including any educational or public awareness activities, provided, or to be provided, by the territorial authority.
  - c) how implementing the plan is to be funded.

- d) if the territorial authority wishes to make grants or advances of money in accordance with [section 47](#), the framework for doing so.

##### s44. Requirements when Preparing, Amending, or Revoking Plans

In preparing, amending, or revoking a waste management and minimisation plan, a territorial authority must—

- a) consider the following methods of waste management and minimisation (which are listed in descending order of importance):
  - (i) reduction.
  - (ii) reuse.
  - (iii) recycling.
  - (iv) recovery.
  - (v) treatment.
  - (vi) disposal; and
- b) ensure that the collection, transport, and disposal of waste does not, or is not likely to, cause a nuisance; and
- c) have regard to the New Zealand Waste Strategy, or any government policy on waste management and minimisation that replaces the strategy.

#### 6.1.1.2 LGA Requirements

The LGA does not specifically identify solid waste as an activity that is required in a LTP (LGA Schedule 10, (2)). The Council has included solid waste in previous LTP's as part of prudent management and planning. The relevant legislation for solid waste from the LGA for the LTP is as follows:



#### **s4. Statement of Service Provision**

A long-term plan must, in relation to each group of activities of the local authority, include a statement of the intended levels of service provision that specifies—

- (a) any performance measures specified in a rule made under [section 261B](#) for a group of activities described in [clause 2\(2\)](#); and
- (b) the performance measures that the local authority considers will enable the public to assess the level of service for major aspects of groups of activities for which performance measures have not been specified under paragraph (a); and
- (c) the performance target or targets set by the local authority for each performance measure; and
- (d) any intended changes to the level of service that was provided in the year before the first year covered by the plan and the reasons for the changes; and
- (e) the reason for any material change to the cost of a service.

#### **s77. Requirements in Relation to Decisions**

- (1) A local authority must, in the course of the decision-making process,—
  - (a) seek to identify all reasonably practicable options for the achievement of the objective of a decision; and
  - (b) assess those options by considering—
    - (i) the benefits and costs of each option in terms of the present and future social, economic, environmental, and cultural well-being of the district or region; and
    - (ii) the extent to which community outcomes would be promoted or achieved in an integrated and efficient manner by each option; and

- (iii) the impact of each option on the local authority's capacity to meet present and future needs in relation to any statutory responsibility of the local authority; and
- (iv) any other matters that, in the opinion of the local authority, are relevant; and
- (c) if any of the options identified under paragraph (a) involves a significant decision in relation to land or a body of water, take into account the relationship of Māori and their culture and traditions with their ancestral land, water, sites, waahi tapu, valued flora and fauna, and other taonga.

#### **s93. Long-term Plan**

- (6) The purpose of a long-term plan is to—
  - (a) describe the activities of the local authority; and
  - (b) describe the community outcomes of the local authority's district or region; and
  - (c) provide integrated decision-making and co-ordination of the resources of the local authority; and
  - (d) provide a long-term focus for the decisions and activities of the local authority; and
  - (e) provide a basis for accountability of the local authority to the community; and
  - (f) provide an opportunity for participation by the public in decision-making processes on activities to be undertaken by the local authority.

#### **Schedule 10.2 Groups of Activities**

- (1) A long-term plan must, in relation to each group of activities of the local authority,—
  - (a) identify the activities within the group of activities.

- (b) identify the rationale for delivery of the group of activities (including the community outcomes to which the group of activities primarily contributes.
- (c) outline any significant negative effects that any activity within the group of activities may have on the social, economic, environmental, or cultural well-being of the local community.
- (d) include the information specified in [clauses 4](#) and [5](#)—
  - (i) in detail in relation to each of the first 3 financial years covered by the plan; and
  - (ii) in outline in relation to each of the subsequent financial years covered by the plan.



The 3-2-1-Zero booklet provides useful information for the kerbside collection for households.

**Table 18: Other Relevant Legislation**

Legislation	Why is this important?	Commencement or Last Review or Amendment Date
<b>National</b>		
The Resource Management Act 1991	To promote the sustainable management and protection of natural and physical resources.	2005
Hazardous Substances and New Organisms Act 1996	To protect the environment, and the health and safety of people and communities, by preventing or managing the adverse effects of hazardous substances and new organisms.	2004
The Health and Safety in Employment Act 1992	To promote the prevention of harm to all persons at work and other persons in, or in the vicinity of, a place of work.	2004
Weights and Measures Act 1987 and 2000	To protect the customer who is paying by weight. This is achieved by maintaining certification of all weighbridges, and setting minimum charges in accordance with the Act.	2000
Health Act 1956	It shall be the duty of every local authority to improve, promote, and protect public health within its district and to provide "Works" for the collection and disposal of refuse, nightsoil, and other offensive matter.	2005
Building Act 1991	Provides controls relating to building work and the use of buildings, and for ensuring that buildings are safe and sanitary and have means of escape from fire.	2005
Climate Change Response Act 2002	To enable New Zealand to meet its international obligations under International Conventions and Protocols, including management of landfill gas.	2002
National Environmental Standard for Air Quality	The Council needs to consider and mitigate the effects of landfill gas.	2004
Ozone Layer Protection Act 1996	To help protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer.	1996
NZ Waste Strategy	Planning must have regard to the strategy.	2010
<b>Regional</b>		
Canterbury Regional Policy	Enables planning, designation and resource consent conditions under the Resource	1998

Legislation	Why is this important?	Commencement or Last Review or Amendment Date
Statement	Management Act.	
Canterbury Regional Council Transitional Regional Plan	Enables planning, designation and resource consent conditions under the Resource Management Act.	
Notified Canterbury Natural Resources Regional Plan	Enables planning, designation and resource consent conditions under the Resource Management Act.	2002-2004
Canterbury Hazardous Waste Management Strategy	To achieve integrated management of hazardous waste in Canterbury.	2006
Canterbury Waste Minimisation Strategy	To achieve integrated waste minimisation in Canterbury.	2006
<b>Local</b>		
Timaru District Plan	Enables planning, designation and resource consent conditions under the Resource Management Act.	2005
Long Term Plan – 2012-2022	Provides long-term strategic plan and budget.	2012
Annual Plan 2012/2013	Short-term outcomes and budget.	2012
Waste Assessment	Review 6 yearly.	2011
Solid Waste Plan	Strategic and implementation plan.	2003
TDC Solid Waste Bylaw	To enable effective implementation and enforcement of the solid waste activities.	2007

## 6.2 KEY STRATEGIC RELATIONSHIPS

Table 19: Significant or strategic relationships with groups and organisations

Group/Organisation	Nature of Relationship	Key Contact (incl. details)
Transpacific Industries Limited	Service provider for solid waste services.	The Chief Executive Private Bag 14919 Panmure Auckland
Canterbury Waste Joint Committee	The Timaru District is a member of the committee and the purpose is to facilitate regional waste minimisation and hazardous waste initiatives.	CWJC C/- CCC PO Box 237 Christchurch
Mackenzie District Council	Neighbouring local authority. Member of Canterbury Waste Joint Committee.	The Chief Executive PO Box 52 Fairlie
Waimate District Council	Neighbouring local authority. Disposes of waste to the Redruth Landfill. Member of Canterbury Waste Joint Committee.	The Chief Executive Officer PO Box 122 Waimate
Sustainable South Canterbury Trust	Service provider for waste reuse, large goods collection and escrap recycling.	The Chairman PO Box 804 Timaru
Environment Canterbury	Regulatory role in monitoring sites.	The Chief Executive PO Box 345 Christchurch
Timaru District Council	Regulatory role in monitoring.	Regulatory Services Manager PO Box 522 Timaru

Group/Organisation	Nature of Relationship	Key Contact (incl. details)
Ministry for the Environment	Administration and Implementation of the Waste Minimisation Act.	The Chief Executive PO Box 10362 Wellington
Waste Management Institute of NZ	Liaison role.	The Executive Officer PO Box 305426, Triton Plaza Auckland 0757
Local Government NZ	Liaison role.	Local Government New Zealand PO Box 1214 Wellington
Timaru District Council Elected Members and Staff	Policy and Management.	Timaru District Council PO Box 522 Timaru

### 6.3 KEY STAKEHOLDERS/CUSTOMERS

Key Stakeholders/Customers are listed below:

- Elected members
- Residents and ratepayers
- Businesses and industry
- Schools
- Community and civic groups
- Council service providers
- Private waste companies
- Waimate and Mackenzie District Councils
- Organisers of public events
- Other government bodies
- Environment Canterbury
- Canterbury Waste Joint Committee



## 7 Activity Drivers

### 7.1 STRATEGIC DIRECTION AND LEVELS OF SERVICE

The Council consulted with the community in 2003 on the Council's Solid Waste Plan. This initial plan outlined the strategic direction of zero waste to landfill.

### 7.2 CUSTOMER EXPECTATIONS

During the consultative phase for the Solid Waste Plan, there was a strong desire from the community for recycling.

The Council undertook significant consultation on the type of collection services. To achieve the maximum diversion of waste for landfill from a kerbside service, the Council considered a three bin collection service. During 2005, the Council undertook a trial using the three bin system. Eighty-seven percent of residents that participated in the trial were satisfied with the proposed three bin system. As a result, Council introduced the three bin system kerbside collection services from July 2006.

Overall, waste minimisation is achieved through re-use, recycling and composting (recovery).

Customers' expectations can relate to the following:

- That the landfill and transfer stations are accessible during the open hours.
- That collection services and the appropriate range of collection services are provided on the day, usually at a similar time.
- That the cost of services are generally acceptable,

- That there are no adverse effects from the provision of services.
- There is scope to be more proactive in seeking customers' expectations and direction for the future.

During the Council Customer Survey of 2008, 90% of customers who receive a kerbside collection service were satisfied with the service. This increased to 91% in 2011.

### Legislative Requirements

Under the Health and Waste Minimisation Acts the Council needs to:

- Ensure that public health is adequately protected.
- Promote effective and efficient waste management and minimisation.
- Consider methods for waste management and minimisation including:
  - Reduction,
  - Reuse,
  - Recycling,
  - Recovery,
  - Treatment,
  - Disposal.
- Have regard to the NZ Waste Strategy.

### Other Influences

Under the Waste Act there may be new product stewardship programmes that may require facilitation of new reuse or recycling programmes for specific items, e.g. electronic waste or tyres.

Similarly, community groups, not for profit organisations or companies may require Council to assist or help facilitate new waste minimisation programmes, ventures or operations.

### **7.3 LEVELS OF SERVICE AND PERFORMANCE MEASUREMENT**

#### **Levels of Service Research**

A considerable amount of work was undertaken to determine the existing kerbside collection levels of service which were introduced from 1 July 2006.

The operations of the Council's solid waste activities are contracted until 2021 and it is not expected that the levels of service for the kerbside collection will change during this time. Small changes to the descriptions of the Levels of Service have been made from 2012 to better reflect the processing of materials at each facility for composting and recycling and a performance measure has been added to recognise that the existing level of service also diverts materials through reuse and other activity.

It is expected that the levels of service for the commercial, industrial, construction, demolition and remaining industrial organic waste streams may change in the next few years. Investigation into alternative processing options has already commenced and is likely to continue over the next few years.

The Council will undertake investigation into the levels of service for solid waste activities every three years or as required due to changing circumstances, e.g. new regulations or product stewardship schemes.

#### **Process for Establishing Levels of Service**

The Council's LTP, Annual Plan and WMMP are the formal methods for establishing levels of service.

More directly, customer surveys, forums and one-on-one interviews will be utilised to measure customers' requirements as needed.

After feedback is received, options will be developed and costs will be established to enable the scenarios to be further considered both by the community and the Council.

## 8 Solid Waste Services in the Timaru District

### 8.1 TIMARU DISTRICT COUNCIL SERVICES

Transpacific Industries Ltd (TPI) are contracted until 30 June 2021 to provide solid waste services for kerbside collection, transfer station operations, composting, recyclables sorting and the operation of the Redruth landfill. The contract is extendable by 5 years should both parties agree.

#### Kerbside Collection

Council provides a three bin collection service for rubbish (140 litre bin, fortnightly), recyclables (240 litre bin, fortnightly) and food/garden waste (240 litre bin weekly). As of 30 June 2011, there were 58,849 wheelie bins in use. Annual growth for allocation of bins is on average 1.5% per annum. On this basis, there should be sufficient capacity with the existing collection fleet before extra collection trucks are required.

#### Transfer Stations

The Council provides four transfer stations in the District located at Timaru, Temuka, Geraldine and Pleasant Point incorporating facilities for the drop-off of:

- reusable items
- recyclables
- scrap metal
- scrap
- organic waste for composting
- household hazardous waste
- residual rubbish for disposal to landfill

About 60% of site usage is customers using the drop-off at the front of the site for a range of recycling activity with 40% paying to dispose of rubbish, organics or cleanfill.

All goods are transported to Redruth for processing.

#### Reduction

Council facilitates the reduction of waste mainly through increased recycling by working with businesses and utilising programmes for reduction, e.g. Target Sustainability.

#### Reuse

Council enables reuse by providing for the collection of items from households, a drop-off facility at all transfer stations and the provision of a retail shop for the sale of items – “The Crow’s Nest” which is operated under contract by the Sustainable South Canterbury Trust. The Council also provides a waste exchange listing service for items to be reused through Christchurch City Council’s website.

#### Recycling

Materials collected for recycling from the Council kerbside collection are processed in a materials recovery facility (MRF) at Redruth. The MRF is currently operating at approximately 60% capacity. The MRF has an annex which is used by Full Circle Recycling to process commercial cardboard, paper and plastic.

A scrap metal drop-off site, managed by Timaru Metal Recyclers, is provided in Redruth Street for 24 hour free drop-off of whiteware and all scrap metals including cars.

Zero Waste events are strongly supported by the Council's solid waste unit. A 'Zero Waste Event Guide' containing helpful instructions, photographs of available infrastructure, order forms and suggested stallholder information is provided to those interested. In discussion with the event organiser, the unit then arranges the requirements for the event: the number and type of bins needed, full signage on the bins, the necessity for event organisers to be responsible for products to be put in the correct bins, delivery and pick up. Responses from most event organisers have been very positive – they appreciate being given significant assistance to do the right thing – it makes them and the Council look good.

### **Recovery**

Food and garden waste collected from the kerbside collection, transfer stations and commercial sources is processed at a composting facility at Redruth. Waste oil is able to be deposited at transfer stations and is collected for burning in energy saving processes.

### **Disposal**

Redruth Landfill is an A grade landfill with resource consents for the disposal of waste.

Dumping enforcement is handled through the Council's regulatory unit unless it is outside the transfer station. In this case it is investigated by the Solid Waste Unit.

## **8.2 PRIVATE COLLECTORS**

Where the Council does not provide kerbside collection services, or where businesses require alternative solid waste collection services,

the Council will license the private waste operators who provide these services to ensure the goals of this WMMP are achieved.

The Council contracts out the operation of all solid waste services and has a Solid Waste Unit to manage the operational contract and to provide information and education support.

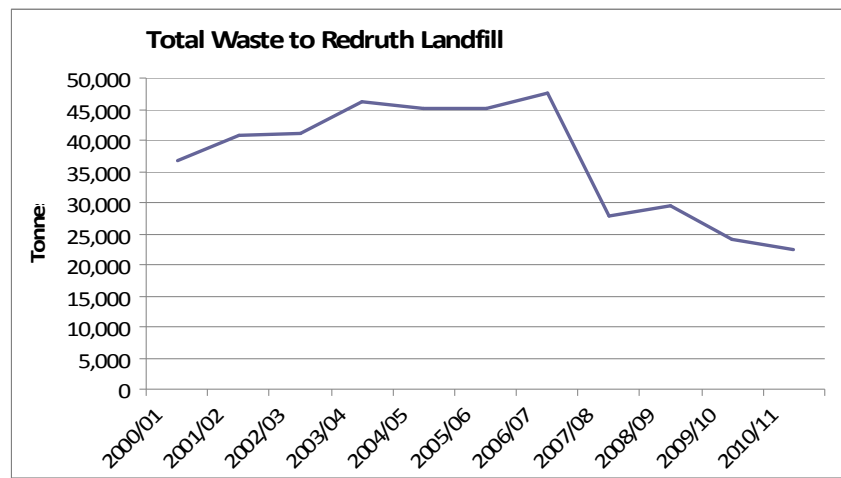
Thirty-seven businesses are permitted to dispose of waste directly to Redruth Landfill. Non-permitted businesses use commercial collectors or deliver waste to the transfer station. A number of other operators collect waste that is not disposed of at the landfill, e.g. scrap metal, cardboard, plastic wrap and used clothing. As landfill disposal fees increase, there is a risk that cheaper alternative disposal options become viable resulting in waste flight from the Timaru District. Similarly, waste minimisation options may become more viable.

## **8.3 SUMMARY OF WASTE AND DIVERTED MATERIALS**

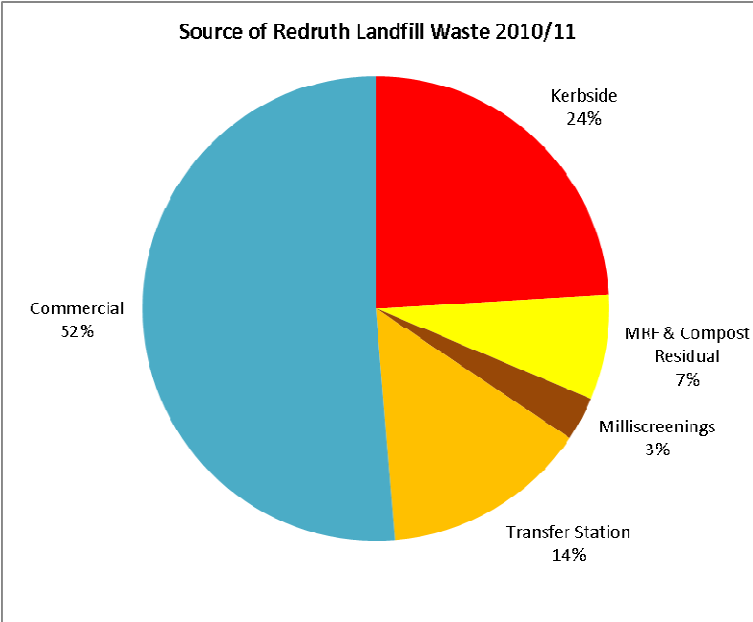
Waste disposed of into the Redruth landfill has reduced considerably since 2006. The significant issue for Council is that there are still fixed costs for the landfill and the scope to recover these costs is reduced with less waste.

As part of the resource consent conditions, Council is required to monitor the Redruth landfill and other closed landfills. To date, no significant environmental effects have been detected from the closed landfills.

**Figure 2: Waste Disposed of to Redruth Landfill**



**Figure 3: Source of Waste Disposed of to Redruth Landfill**



*The graph above is from the actual 2010/11 tonnes whereas the initial graph was only for the waste audit week. This one will be more accurate as it reflects 12 months.*

**Table 20: Composition of Waste Disposed of to the Redruth Landfill for UEF Calculation**

Category	Excludes Cleanfill
Garden	5.3%
Nappy/Sanitary	3.4%
Putrescibles	13.5%
Paper	9.6%
Sewage sludge	0.0%
Timber	18.3%
Textile	6.4%
Other	43.5%
<b>Total</b>	<b>100.0%</b>

The most significant waste stream affecting the composition of waste is timber.



*A waste audit conducted at Redruth Landfill.*

The following table is a guide for the Timaru District. Some waste is brought direct to Redruth Landfill from Mackenzie and Waimate and is not included in the waste quantities for the respective Councils. The higher quantity of waste for Timaru is attributed to the amount of industry in Timaru, while the Mackenzie quantity is influenced by the tourist industry.

**Table 21: Summary of Waste Quantities**

Category	2009/10 Tonnes
Reuse	218
Recycle	3,933
Recover	13,730
Treatment	1
Total tonnes Diverted	17882
Waste Diverted kg/person	417
% diverted of total	45%
Residual Disposal	21,645
Residual kg/person	505
% landfilled of total	55%
Total waste tonnes	39,527
Total waste kg/person	922
2008/09 Canterbury Avg	789
Population (2006)	42,870



The residual waste per capita for the Canterbury Region in 2008/09 was 541kg/person.<sup>1</sup>

The residual waste per capita for New Zealand in 2010/11 was 575kg/person.

The Council adopted zero waste as part of a vision towards improving waste diversion from landfill in 1999. To measure progress of zero waste to landfill, the baseline year of 2005/06 was established as this was the year prior to the Council implementing its three bin kerbside collection service.

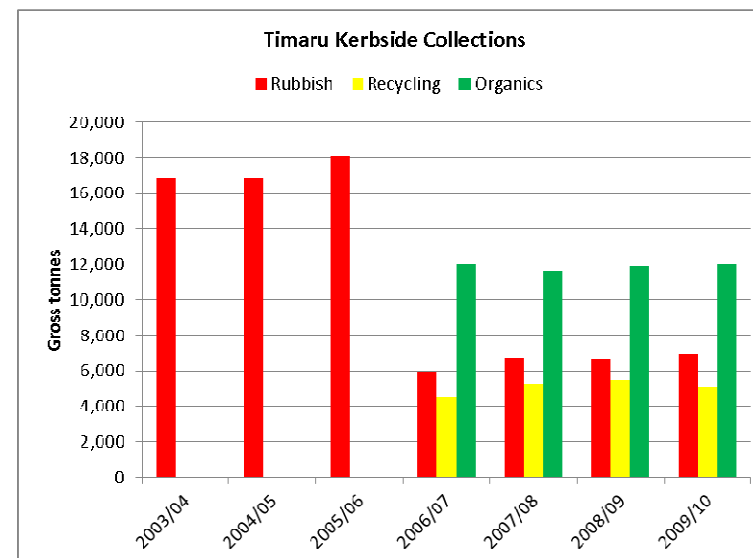
So far, 54% of waste from the baseline year has been diverted from landfill. The challenge is to improve upon this diversion percentage. It is possible to move towards 80% diversion with more cost, however, to reach zero waste to landfill is not practical nor affordable in the foreseeable future of this plan.

**Table 22: Waste Diversion to Date**

District	Baseline Tonnes	2010/11	Diversion achieved %	Waste to landfill %
Timaru	2005/06 44,113	20,475	54%	46%

The quantity of rubbish disposed of to landfill from the kerbside collection reduced from 18,080 tonnes in 2005/06 to 7,030 tonnes in 2010/11, a reduction of 62%.

**Figure 4: Kerbside Collection**



Even though residents are provided with three bins for their waste, approximately 42% of waste placed in the rubbish bins could be diverted for recycling and composting.

<sup>1</sup> Canterbury regional waste data addendum report 2002-2009, Report: R10/52  
ISBN: 978-1-877574-27-6

**Table 23: Waste Audit of Kerbside Bins**

Rubbish bin composition CATEGORY	2007 AUDIT (JUNE)		2008 AUDIT (MAY)	
	%	AV WEIGHT KG	%	AV WEIGHT KG
Paper/card	5.5	0.5	7.4	0.5
Plastic	2	0.2	4.1	0.3
Food	28.9*	2.4*	25.8	1.8
Cans/metal	3	0.2	2.7	0.2
Glass	2.3	0.2	3	0.2
Clothes	0	0	0	0
Sub Total	41.7	3.5	43	3
WASTE	58.2	4.8	57	3.8
<b>TOTALS</b>	<b>100</b>	<b>8.3</b>	<b>100</b>	<b>6.8</b>

\*The most significant item placed in the red bin, which could be easily diverted, is food waste.

#### 8.4 DEMAND AND GROWTH

From the waste assessment there is sufficient capacity and resources during the term of this plan for kerbside collection, transfer stations, recycle processing and landfill space.

The growth in the annual tonnes of organic waste processed has grown at 4% for the past three years. The capacity of the compost plant is approximately 16,000 tonnes and this may be reached by 2015. Council will need to monitor the annual tonnes of organic waste and allow for the expansion of the compost facility if the annual quantities look likely to exceed 16,000 tonnes.

**Table 24: Timaru Organic Waste**

Timaru Food/Garden Waste Diverted		
Year	Tonnes Diverted	Annual Difference
2006/07	13,829	0%
2007/08	12,696	-8%
2008/09	13,261	4%
2009/10	13,730	4%
2010/11	14,223	4%

**Table 25: Year the Compost Facility may reach full Capacity**

Year	Growth	Total (T)
2015	4.00%	16,027
2019	2.00%	16,052



*Compost is turned from one windrow to another three times in the eight week cycle, providing aeration and mixing the materials.*

## 9 Kerbside Collection

### 9.1 METHODS

- Provide a regular kerbside collection of rubbish, recycling and organic waste to urban centres and nominated rural routes.
- Provide wheelie bins and Eco-carts for collection services.
- Monitor use of kerbside system.
- Provide information on use of bins.

### 9.2 CURRENT LEVEL OF SERVICE

The Council provides a kerbside collection service to all urban areas and some rural areas, mainly on collection routes between the townships. Council has considered a district wide service in the past, but feedback showed there was insufficient support. Private waste contractors may provide service in areas where the Council does not. The Council provides a range of bin sizes to suit customers requirements including the option of a crate service, “Eco-Cart”, to customers who cannot manage a set of three bins.

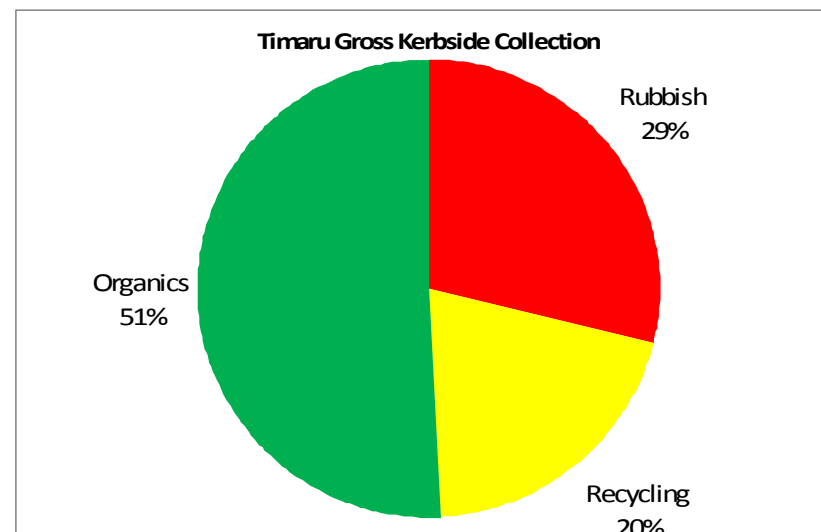
The Council provides management services for the kerbside collection, including information, education, monitoring and enforcement.

**Table 26: Kerbside Collection Services**

Service	Container	Collection Frequency
Rubbish	140 litre and 240 litre	Fortnightly
Recyclables	140 litre and 240 litre	Fortnightly- alternates with rubbish
Food and Garden	140 litre and 240 litre	Weekly

The gross allocation of waste collected for the various kerbside services in 2010/11 is shown below. There was little change in the percentages from the previous year.

**Figure 5: 2010/11 Kerbside Collection**



### 9.3 KERBSIDE COLLECTION POLICIES

- Collections may commence at 6.00am.
- Collections are undertaken Monday to Friday.
- No collections on Christmas Day, New Year's Day and Good Friday.
- Compulsory for all properties in urban locations of Timaru, Temuka, Geraldine, Pleasant Point, Pareora, Winchester and Cave.
- Discretionary participation in areas serviced outside the urban locations.

- f) Weekly collection for CBD areas in Timaru, Temuka, Geraldine and Pleasant Point.
- g) CBD customers pay the same rate as other customers.
- h) Set district wide 100% user pays targeted rate for the kerbside services, with differential pricing for incentives/disincentives for waste minimisation and disposal.
- i) Provide bylaw for kerbside collection services.

#### 9.4 INFORMATION AND BIN AUDITS

The Council lists on its website information on collection days and materials accepted along with information on specific issues. Brochures, posters and stickers have been produced to support the monitoring programme. Media in local newspapers and radio is also used to inform residents about collection matters.

From 2009, the Council commenced a proactive bin monitoring programme. This involves a staff member inspecting bins for contamination in areas determined in liaison with the collection contractor. Bins are inspected and, to date, approximately half the bins have minor contamination as in the 2009 visual audit. Initial letters (Type 1) are issued to residents to congratulate them on correctly placing items in the bin or the letter, along with other resources (brochure, sticker, and poster), informs them of the contamination and instructions on what to do correctly. A second follow up visit is made to the same properties which also usually captures bins missed on the previous inspection. The same procedure is followed, (Type 2 Letter). A further third inspection is carried out and Council staff will personally visit repeat offenders to discuss what they doing wrong and how they can improve their sorting. As a last resort, Council can suspend a service.

**Table 27: Kerbside Enforcement Notices**

Letters	2009/10	2010/11
Properties receiving Type 1 Letters	51%	46%
Properties receiving Type 2 Letters	24%	17%
Properties receiving Type 3 Letters	4%	4%

Note that the 4% receiving type 3 letters is similar to the 3.9% of bins that had major contamination in the 2009 visual audit.

#### 9.5 DEMAND & GROWTH

There has been about a 1.5% increase in bins issued each year. The existing collection fleet should be able to service this growth until the end of the contract. It is important to monitor the net quantity of bins in circulation not only for contract payment, but also to track the threshold number of bins in circulation to see if collection resources need to be re-assessed. The on-going demand for 240 litre rubbish bins needs to be monitored to assess if people are opting for an easier disposal option in residential and commercial situations, rather than correctly separating materials.

Some rural areas are currently serviced, however, a moratorium on extensions was put in place by agreement with the private contractor who also offers a bin service in rural areas. The moratorium ends on 1 July 2013. Council receives occasional requests for extensions and these are applied against a template to analyse the costs vs. benefits.

There is some potential for growth in rural areas where pockets of housing development meet the criteria for extensions. This growth will show in overall bin growth, but is also monitored within the contract under extensions so any trends and impacts will be observable.

**Table 28: Overall Bin Growth**

Year	Total Units in Service	Annual Growth	Total Increase
Jun-07	55,671	0.0%	0.0%
Jun-08	56,520	1.5%	1.5%
Jun-09	57,268	1.3%	2.8%
Jun-10	58,133	1.5%	4.4%
Jun-11	58,849	2.3%	5.5%

**Table 29: Bin Number Threshold for Extra Collection Truck**

Demand for bins 2010/11	Existing Bins 2010/11	15% Growth until July 2021	Threshold before extra truck required
Rubbish	19,723	22,662	21-24,000
Recycle	20,012	23,014	24-27,000
Compost	18,948	21,790	24-27,000

## 9.6 ISSUES

### Bin Audits

Collection audits (sort and weigh) were undertaken in 2007 & 2008. Forty-one percent of material in the rubbish bins was identified as being compostable or recyclable. A visual collection audit was undertaken in 2009 of the recycling and organic bins. Major

contamination in organic and recycling bins was less than 1%. On-going information, education and enforcement is required for improved waste minimisation.

### Improvements to Collection

The practicality of collecting an expanded range of materials for recycling is currently not worthwhile because of cost, commodity markets and low quantities of materials, (e.g. styrofoam trays, biscuit packets). Solutions need to be developed for ensuring packaging is easily recyclable, along with resources for these materials. Similarly improvements to glass and food collection as well as business plastics come at additional cost.

### Demand for Rubbish Bins

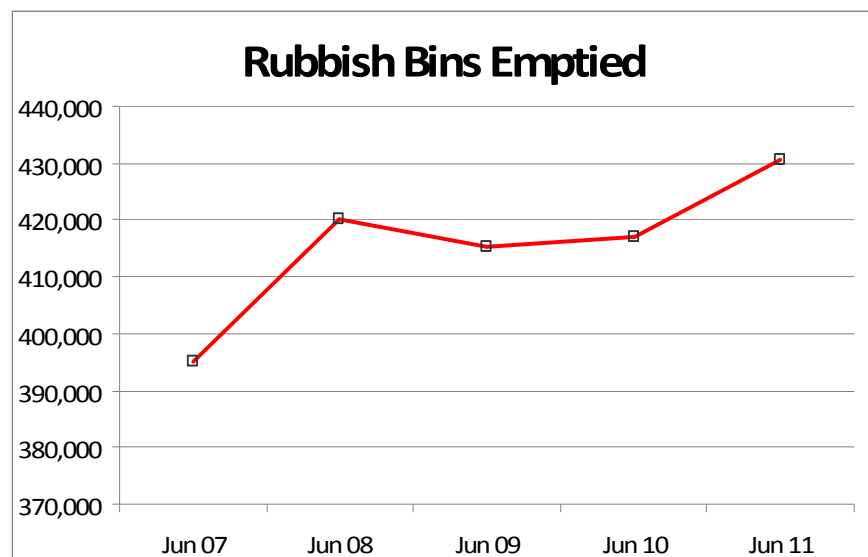
There has been higher demand for the larger 240 litre rubbish bin in 2010/11.

**Table 30: Demand for Bins**

Demand for bins 2010/11	140 litre	240 litre
Rubbish	1.1%	8.0%
Recycle	0.5%	1.6%
Compost	0.5%	1.5%

There has also been a higher number of rubbish bins emptied for 2010/11, while demand for the recycling and organic services has flattened off. This could also be attributed to pay by weight at the transfer stations, whereby customers are now placing slightly more waste into their wheelie bin. Council should be looking to reduce the quantity of rubbish disposed of. This can be achieved by increasing the charge for the larger 240 litre rubbish bin incentivising customers to look for other options.

**Figure 6: Rubbish Bins Emptied Per Annum**



### Weekly CBD Collections

The CBD areas of Timaru, Temuka, Geraldine and Pleasant Point currently receive a weekly service for rubbish and recycling whereas all other customers receive a fortnightly service. There is a reduced need for an organic collection for the CBD areas. The CBD customers pay the same rate as residential customers, but receive an overall weekly service. The level of service and charges need to be reviewed.

### Status

The Council has contracted Transpacific Industries until 30 June 2021 to carry out the kerbside collection. Therefore, the current

level of service for kerbside collection will be maintained until the contract expires.

The Council will continue to provide resources for the management and monitoring of the kerbside collection services.

### Data and Records

The following data is to be recorded for the kerbside collection:

- Wheelie bins delivered, retrieved and in service.
- Stolen bins, repairs and maintenance of wheelie bins.
- Wheelie bins emptied.
- Missed services.
- Gross and net tonnes less contamination collected for the recycling, organics and rubbish collections.
- Household contamination rates for the recycling and organic collections.
- Household solid waste quantities for the three collections.

**Table 31: Number of Bins in Service**

Bins in Service - 30/6/2010	140 litre	240 litre	Total
Rubbish	18,119 (93%)	1,343 (7%)	19,462 (33.6%)
Recyclables	2,128 (11%)	17,646 (89%)	19,774 (34.1%)
Food and Garden	1,471 (8%)	17,248 (92%)	18,719 (32.3%)
	<b>21,718</b>	<b>36,237</b>	<b>57,955</b>
Eco-Carts			178 (0.3%)
			<b>58,133</b>



### Bins Presented at Kerb for Emptying

	2006/07	2007/08	2008/09	2009/10	2010/11
Recycling Bin Presentation Rate	73%	76%	77%	75%	75%
Recycling Kg per Bin Collected	12.70	12.30	11.75	11.43	11.73
Recycle bins emptied	357,267	382,083	388,711	386,858	389,661
Organic Waste Bin Presentation Rate	61%	63%	62%	61%	61%
Organic Waste Kg per Bin Collected	22.09	19.04	19.37	19.45	20.32
Organic bins emptied	570,240	594,278	596,603	595,012	597,678
Rubbish Bin Presentation Rate	82%	85%	83%	82%	83%
Rubbish Kg per Bin Collected	13.28	10.85	11.13	10.89	11.56
Rubbish bins emptied	395,192	420,026	415,301	417,110	430,643

**Table 33: Bins Emptied**

Kerbside bins emptied	2009/10	2010/11
Rubbish bins	417,110	430,643
Recycle bins	386,858	389,661
Organic bins	595,012	597,678
	<b>1,398,980</b>	<b>1,417,982</b>

**Table 34: Missed Bins**

Year	Target	Results	Measured by
2009/10	520 or less missed kerbside bins per year.	537 bins missed	Service request system
2010/11	520 or less missed kerbside bins per year.	464 bins missed	

464 bins is less than 2 bins per collection day or 0.03% of the 1,417,982 bins emptied, which means that 99.96% of bins were collected in 2010/11. The contractor will return to collect a missed bin as part of the service, unless the bin was not out for collection on time.

## 9.7 PERFORMANCE MEASUREMENT

**Table 35: Long Term Plan Performance Measures**

Year	Measure	Target
<b>Regular kerbside collection services to enable separation of waste for recycling and compost</b>		
2012/13	Number of missed bins at kerbside	2012/13 540 bins missed Increasing at 8 bins per year.

**Table 36: Operational Performance Measures**

Operational Indicator	Current Performance 2010/11	Target 2012/13 – 2018/19	Measured (This data is derived from)
Recycle Kg/household	11.64	11.60	Tonnes from weighbridge and number of bins emptied by TPI
Organics kg/household	20.32	19.50	
Rubbish Kg/household	11.56	11.00	

## 9.8 FURTHER OPTIONS FOR THE KERBSIDE COLLECTION

In considering improvements to the kerbside collection services, the Council has considered the following initiatives. A more detailed summary of the options, as presented in the waste assessment section 33.2, is shown in Appendix 2.

**Table 37: Collection Further Options**

Item	Description	Explanation	Budget	Time	Status
1	Review collection service in 2017	The WMMP has to be reviewed every 6 years. Undertake the review prior to 2018 and before the collection contracts expire in 2021.	N/A	2017	Recommended
2	Every 5 years, prior to the statutory review of the WMMP, undertake random visual sample of bins to determine composition and help with any planning for WMMP.	Will provide useful information for monitoring and strategic planning.	Use existing budget	2017	Recommended
3	Install public place recycling facilities in highly used areas.	See chapter 12 Public Places and Events.	To be confirmed after project options are considered	2013/14 + 3 years	Future Option
4	Review the services and the charges for the CBD service	CBD receives a weekly service, but pays the same rate as householders who receive a fortnightly service. Increased rate would establish parity across all bin users in relation to services received.	N/A	2013/14	Future Option

## 10 Private Waste Collection

### 10.1 METHODS

- a) Ensure that waste will be separated into rubbish, organics and recyclables.
- b) License private waste collection operators disposing of waste to Redruth landfill.
- c) Develop waste permits for commercial users of various facilities.

#### Current Level of Service Collection Operators

These companies provide services to customers:

- Where waste quantities exceed the capacity of the Council kerbside collection,
- In areas not serviced by the Council kerbside collection service, and
- Where a more frequent service is required compared to the Council service.

The services offered include collections for rubbish, recyclables and organic waste utilising wheelie bins, skips and trucks.

Agricultural recycling collection is now established with two companies providing for the private collection of baleage wrap, chemical containers and other agricultural plastic wastes.

#### Businesses

Some businesses and organisations provide their own collection services which may range from light vehicles through to trucks.

### 10.2 POLICIES

- a) Customers pay full disposal fees.
- b) The Council offers no discounts on set fees for regular customers or large quantities of waste unless special circumstances arise for Council to reconsider this approach.
- c) Private waste collection operators who dispose of waste to the landfill must be permitted.

### 10.3 INFORMATION

**Table 38: Private Waste Brought to Redruth Landfill**

Year	Tonnes
2007/08	22,777
2008/09	16,642
2009/10	12,235
2010/11	12,153

### 10.4 DEMAND & GROWTH

#### Demand for Private Services

The demand for private services will primarily be price driven, or lack of availability where Council does not provide a service. If a business can offer alternative solutions which are cheaper than disposal to the Redruth landfill, customers will most likely select the cheaper option. Businesses may opt for the Council kerbside collection as it is cheaper than commercial services. The Solid Waste Unit has implemented a policy of limiting the issue of kerbside wheelie bins to two sets per property or business.

It is likely that various other options will become viable in the future, along with alternative landfill options for customers as pricing mechanisms allow.

## **10.5 ISSUES**

### **Waste Diversion and Waste Flight**

Increases in the landfill disposal fees have encouraged greater waste diversion by the private sector, e.g. cardboard collections, gib-board and organic materials to composting, polystyrene and soft plastics/shrink wrap.

For waste disposal, waste collectors also look for the cheapest landfill disposal option. As landfill fees increase, the option of taking waste to other landfills will become more viable. Envirowaste Ltd is now taking waste from the Timaru and Mackenzie districts to the AB Lime landfill in Winton, Southland.

With private collections there is some cross boundary movement of waste. Waste is brought in from the neighbouring districts either directly from other Council transfer stations (Waimate) or from private collections within the adjoining Districts. Recyclables collected privately can be sorted and transported out of the district and are not recorded as part of the overall waste diversion for the district, for example, cardboard and plastic quantities collected by Full Circle and scrap metal collected by local scrap dealers or dealers passing through the district picking up scrap. Wool waste is also being taken to Christchurch for composting, and many textiles from local clothing bins are sent to Christchurch for reuse.

### **License All Collection Operators**

Currently, the Council does not have a full understanding of waste quantities that are collected and not handled through Council facilities. Licensing of operators collecting waste will enable data to be collected. The reason Council could collect this information is to enable an overall mass balance of waste to be quantified, e.g. scrap metal quantities. However, the significance in some cases is questionable, e.g. second hand clothing. This information will help show data for benchmarking and measuring the effectiveness and efficiency of waste management and minimisation in the District for the different waste streams.

The issue with collecting data from private operations is the commercial sensitivity of the data. It will also be difficult to monitor operators from outside the Timaru District collecting waste and taking it to other locations, e.g. scrap metal dealers collecting from farms. Unless issues arise with private contractors dumping waste illegally or the Council has a need to obtain data from various waste streams, the private operators not taking waste to a Council facility should remain unlicensed.

## **10.6 STATUS**

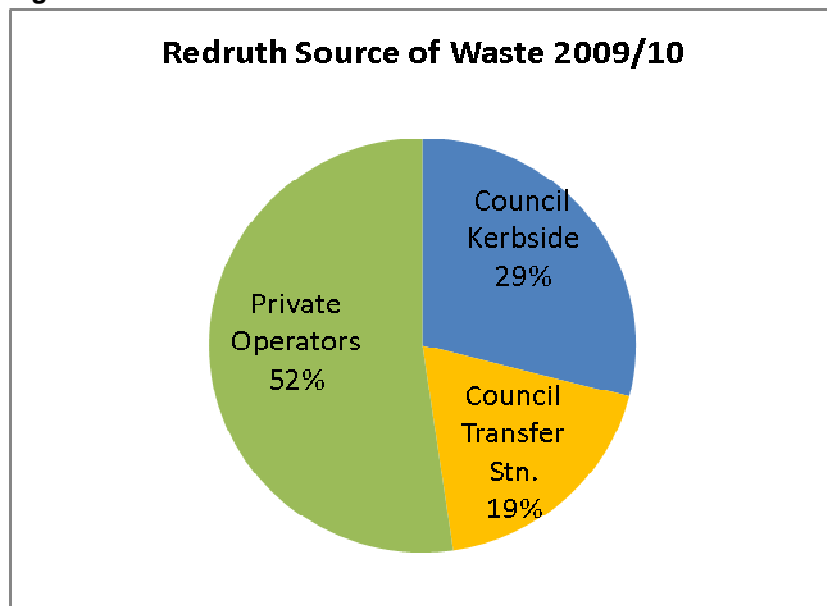
Council envisages no change to the current status for private operators wanting to dispose of waste at Council facilities.

## **10.7 DATA AND RECORDS**

The following data is to be recorded:

- a) Quantities from private operators taken to Council facilities.
- b) Number of private operators with Landfill Access Permits.
- c) Number and type of other waste permits in place.

Figure 7: Source of Redruth Waste



## 10.8 PERFORMANCE MEASUREMENT

### Operational Performance Measures

Council will monitor tonnes being disposed of by the commercial sector.



*A business bales its shrinkwrap for sale. This reduces waste to landfill, saves on waste disposal costs, and, for a company with significant quantities, generates income.*



# 11 TRANSFER STATIONS

## 11.1 METHODS

- Provide four transfer stations, in compliance with legislative requirements, for public to take solid waste to.
- Provide household hazardous waste drop-off facilities at transfer stations.

## 11.2 CURRENT LEVEL OF SERVICE

The Council provides four transfer stations.

**Table 39: Transfer Station Hours and Customers**

Location	Public Hours Week	Paying Customers		Customers per hour open	
		09/10	10/11	09/10	10/11
Timaru	58 <sup>*1</sup>	12,146	12,871	4	4.2
Temuka	12.5	1,845	1,690 <sup>*2</sup>	2.8	2.6
Geraldine	10	1,129	1,364	2.3	2.6
Pleasant Pt.	9	717	631	1.5	1.3

<sup>\*1</sup> Includes landfill access hours,

<sup>\*2</sup> Drop in numbers due to ban on commercial waste haulers delivering waste to Temuka.

**Table 40: Transfer Stations Tonnes**

Location	Total Waste Tonnes		Average load per customer in kg.	
	09/10	10/11	09/10	10/11
Timaru	6,086	5,085	501	395
Temuka	548	326	297	192
Geraldine	625 <sup>*3</sup>	295	545	216
Pleasant Pt.	112	116	156	184

<sup>\*3</sup> 258(trucks)

**Table 41: Services Provided at the Transfer Stations**

	Redruth	Geraldine	Pleasant Pt.	Temuka
Rubbish	Yes	Yes	Yes	Yes
Garden	Yes	Yes	Yes	Yes
Food	Yes	No	No	No
Recyclables	Yes	Yes	Yes	Yes
2nd hand items	Yes	Yes	Yes	Yes
Clothing	Yes	No	No	No
Scrap Metal	Yes	Yes	Yes	Yes
Waste Oil	Yes	Yes	Yes	Yes
Hazardous	Yes	Yes	Yes	Yes
Paint	Yes	Yes	Yes	Yes
Batteries	Yes	Yes	Yes	Yes
LPG cylinders	Yes	Yes	Yes	Yes
e-scrap	Yes	Yes	Yes	Yes
Polystyrene	Yes	No	No	No

The following data recorded by office staff at the transfer stations shows that approximately 40% of customers use the transfer stations for paying transactions, while 60% drop off recyclables at no cost.

**Table 42: Transfer Station Utilisation**

Transfer Station Service 2011	Paid transactions	Recycle transactions
Geraldine	41%	59%
Temuka	37%	63%

### 11.3 TRANSFER STATION POLICIES

- Sites closed on Christmas Day, New Year's Day and Good Friday.
- 100% user pays for rubbish disposal, although Council may amend or waive this policy from time to time.
- Vehicles weighing less than 200kg will pay a flat fee while vehicles weighing more than 200kg will pay by weight, except at Pleasant Point which is assessed upon volume.
- Enable differential charging to encourage waste minimisation.
- The Council has some discretion to waive tipping fees for community groups in special circumstances.
- Provide bylaw for improved waste minimisation.

### 11.4 INFORMATION AND AUDITS

The Council website lists information on the public hours, applicable fees and the materials that may be taken to a transfer station. Brochures, information and media in local newspapers and radio is also used to inform residents about transfer station matters.

A visual solid waste audit was conducted at the Redruth transfer station in 2009. From the audit it was identified that:

- 14.1% of disposed materials could be recycled.
- 10.4% of disposed materials could be reused.
- 2.7% of disposed materials could be used as cleanfill.
- 15.5% of disposed materials could be composted.
- 4.1% of materials disposed are electrical goods, which could be recycled.

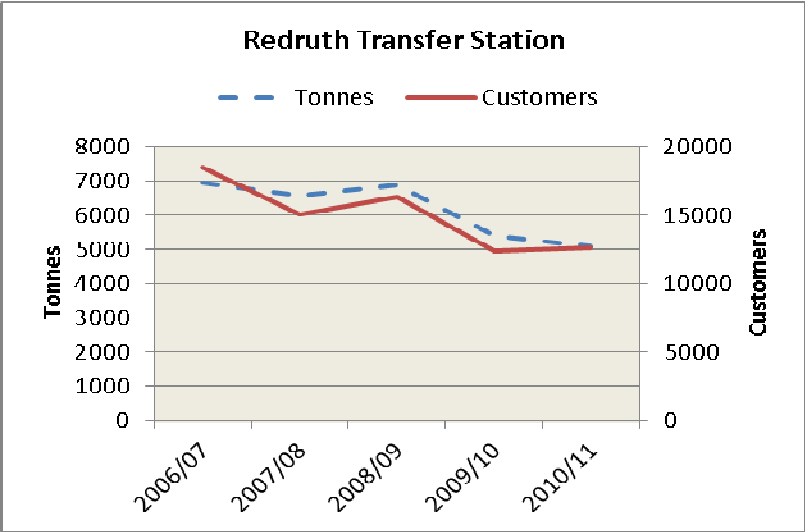
A further 31.6% of waste timber could be diverted providing a suitable alternative technology is developed for the timber waste. Approximately 3% of this is treated timber with the balance being a composition of MDF, and other off-cuts. Overall, there is potential for up to 78% of the waste to be diverted.

### 11.5 DEMAND

Over the past four years, there has been an overall reduction in vehicle numbers and tonnes of waste disposed of at the transfer stations. While it is pleasing to see waste dropping, any correlation to increases of illegal dumping will need to be monitored. Similarly, a decrease in trailer loads of garden waste could indicate it is either being burnt, home composted or dumped illegally.

The rural transfer stations are only open between 9 to 12.5 hours per week and have plenty of capacity to meet demand. The Redruth site hours is open 58 hours a week and this is sufficient to meet demand.

Figure 8: Redruth Transfer Station



The significant decrease in tonnes at Temuka and Geraldine is attributable to a ban on commercial waste haulers disposing of waste at these sites.

Figure 9: Temuka Transfer Station

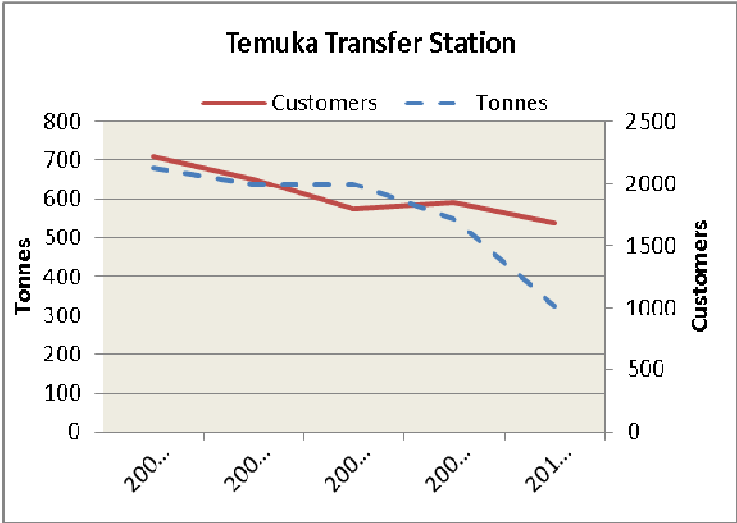
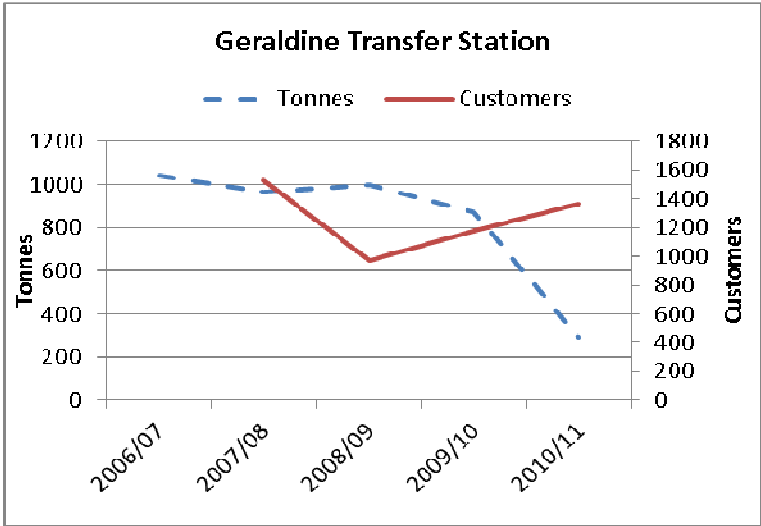


Figure 10: Geraldine Transfer Station



## 11.6 ISSUES

The current limitations in being able to achieve further waste diversion at the transfer stations include:

- Mixed loads, e.g. rubble in trailer load or garden waste mixed in with other waste.
- Recyclables being dropped off as mixed waste.
- Limited infrastructure for unloading and sorting, which may be before the kiosk or adjacent to the pit area.
- Incentives/disincentives for sorting.
- Limited supervision and instruction during unloading.
- People's choice to pay full price and dump what they want with no sorting.

### Resource Recovery Park (RRP)

RRP infrastructure at Redruth will provide the public with improved facilities to drop-off a range of existing and future waste streams. Staffing at the RRP will allow for increased interaction with the public providing opportunities for education on waste minimisation.

### Bylaw

From 1 July 2010, the full Solid Waste Bylaw was implemented with a number of materials banned from landfill including scrap metal, recyclables and organics.

The bylaw is currently applied to the commercial operators who dispose of waste at the Redruth landfill.

Businesses are also being monitored for compliance with the bylaw with site visits to assess a businesses waste management. There is

currently no monitoring for compliance with the bylaw at the transfer stations.

### Escrap Recycling Programme

Ecsrap was established as a pilot project in 2010/11 at Redruth Transfer Station with materials are handled at Redruth by the Crows Nest staff. The system expanded to the rural transfer stations in 2011/12 with the provision of containers to store the escrap.

### Product Stewardship Programmes

There may be a requirement for the collection of other items or materials in the future as part of product stewardship programmes.

### Transfer Station Opening Hours & Fees

The Council will need to monitor the usage and revenue of the transfer stations to assess their viability in providing an effective and efficient service to the community.

## 11.7 STATUS

The Council has contracted TPI until 30 June 2021 to operate the transfer stations.

At present, the public hours will remain the same, however, Council may change these from time to time.

There is scope to improve waste minimisation at the transfer stations and Council may introduce further methods in future to achieve this.

## 11.8 DATA AND RECORDS

The following data is to be recorded for the transfer stations:

- a) Gross and net tonnes for the range of materials dropped off at the transfer stations. Where possible, note contamination
- b) Compliance with the relevant legislation and resource consent conditions.
- c) Compliance with the operational requirements for the site management of each transfer station.

## 11.9 PERFORMANCE MEASUREMENT

**Table 43: Long Term Plan Performance Measures**

Year	Measure	Target
<b>Waste minimisation facilities are adequately provided</b>		
2012/13	Overall and user satisfaction with waste minimisation services	User satisfaction-80% Overall satisfaction-80%

*This measure utilises responses from the 3 yearly Communitrak Survey. Compliance with resource consent conditions is an LTP measure in Chapter 20 Public Health and Safety.*

### Operational Performance Measures

- a) Compliance with operational requirements for site management.

## 11.10 FURTHER OPTIONS FOR THE TRANSFER STATIONS

**Table 44: Transfer Stations Further Options**

Item	Description	Explanation	Budget	Time	Status
1	Polystyrene: investigate options for receipt of smaller quantities with payment.	Some customers may wish to dispose of polystyrene appropriately in small quantities. Currently, only commercial quantities are received. Due to its high volume and high handling and processing cost a charge must be made.	N/A	2012/13	Recommended
2	Tyres: Determine methodology for collection, storage and end use.	Tyres need to be eliminated from tyre dumps and the landfill as they cause a range of issues. Tyres must be recycled in an environmentally responsible manner.	N/A. System will be user pays.	2012/13	Recommended
3	Develop Resource Recovery Park at Redruth transfer station.	Will enable improved drop-off facility for public, improving resource recovery and reducing waste to landfill.	\$345,000	2014/15-2015/16	Recommended
4	Investigate waste sorting at Redruth transfer station.	Will enable improved waste minimisation diverting materials from residual waste.	\$10,000	2016/17	Recommended
5	Implement waste sorting at Redruth transfer station.	Will enable improved waste minimisation diverting materials from residual waste.			Future Option

## 12 Reduction

### 12.1 METHODS

- a) Offer the Target Sustainability programme.
- b) Encourage waste reduction through information and Council staff resourcing.

### 12.2 CURRENT LEVEL OF SERVICE

The Council employs a part-time person (0.75 FTE) whose role includes informing and educating the community on waste minimisation including reduction.

As part of the monitoring of business waste disposed of by permitted collectors, Council Zero Waste Advisors visit businesses to audit waste management systems and explain about waste reduction and diversion. Council offers some subsidy for the provision of infrastructure, such as bins, bags and stickers, to assist with internal waste management systems.

### 12.3 POLICIES

- a) Council will provide staff resources to provide information on waste reduction, along with advice and assistance from time to time for waste audits for the community.
- b) Council will advocate to Central Government when and where required to encourage and facilitate waste reduction.

### 12.4 INFORMATION AND AUDITS

Fifty-one businesses received advice and assistance from Council in 2009/10 and 56 in 2010/11.

### 12.5 DEMAND & GROWTH

Environmental management and waste minimisation awareness continues to grow. In time, this will lead to smarter and greener procurement not only for the Council, but for the community.

Information and case studies should be shared through local business networks. The Council can help facilitate this through the Target Sustainability programme.

### 12.6 ISSUES

#### Supply Chain

The concept of waste reduction often involves changing processes or supplier materials. Often this is outside the control of the end user or receiver of the goods. Similarly, this is also outside the scope of the Council involvement. Council can lobby for improvements to packaging and the supply chain, but is limited in being able to make change, other than providing advice.

#### Landfill Ban

Council can implement a ban on materials being landfilled to encourage reduction of waste and resource recovery.

### 12.7 STATUS

Council will continue to provide a part time role promoting the reduction of waste.

### 12.8 DATA AND RECORDS



Council will record the businesses and organisations that have been contacted by the Council, as well as information on waste reduction that has been provided to the community.

## 12.9 PERFORMANCE MEASUREMENT

### LTP Performance Measure

Council will record the number of businesses and organisations that receive assistance for waste reduction. This measure is recorded under Community Participation, Chapter 19.9 (p90).

## 12.10 FURTHER OPTIONS

Table 45: Reduction Further Options

Item	Description	Explanation	Budget	Time	Status
1	Increase Council Solid Waste Unit staff to 3.5 FTE	Will be able to work with more businesses and organisations, facilitating knowledge sharing and implementation of waste reduction.	\$50,000		Future Option
2	Fund Sustainable Living Programme		\$1,500	2012/13	Recommended



*Solid waste staff assists with a business waste audit. An audit is followed by a report presenting the data and making recommendations to increase recovery and recycling to divert waste from landfill. A report may also suggest waste reduction initiatives.*

## 13 Reuse

### 13.1 METHODS

- a) Provide services for the collection, drop-off and sale of reusable items.
- b) Facilitate a waste exchange service.

### 13.2 CURRENT LEVEL OF SERVICE

The Council has provided a building located at the Redruth landfill site called The Crow's Nest for the retail of reusable items.

Items for reuse may be dropped off at the Redruth, Temuka, Geraldine and Pleasant Point transfer stations. The Sustainable South Canterbury Trust will manage the transport of goods to the shop from 1 July 2012.

The Council has contracted the Sustainable South Canterbury Trust until 2019 to provide the collection of goods at the Redruth site, to operate the Crow's Nest and to provide an on-call kerbside collection of reuseable items and pick-up of reusable items from the rural transfer stations.

The sale of reusable goods diverts waste from landfill and caters to a niche market for people looking for lower priced goods.

The Council will be able to access a web-based waste exchange in 2011 in conjunction with a Christchurch City Council (CCC) initiative [www.freematerials.co.nz](http://www.freematerials.co.nz). Funding will be through the Canterbury Waste Joint Committee in 2011/12. Once this is established, Zero

Waste Advisors will be able to promote it to businesses and community groups to increase participation.

### Private Reuse

There is a wide range of private activities involving reuse from clothing stores, 2<sup>nd</sup> hand goods retail shops, salvage companies, earthmoving contractors, garage sales and online trading. Out-of-town contractors may also undertake work and remove materials from the District.

### 13.3 POLICIES

- a) The Council supports the concept of reuse and the operations for the drop-off of goods and retail at the Crow's Nest.
- b) Support and facilitate the waste exchange through the Canterbury Waste Joint Committee.

### 13.4 INFORMATION

Table 46: Crow's Nest Data

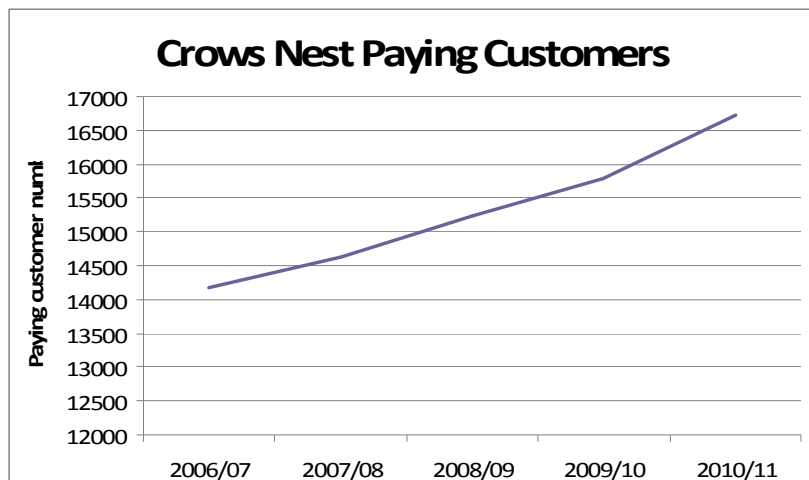
Funding year	2008/09	2009/10	2010/11
Paying Customers	15,233	15,782	16,719

Table 47: Diverted Tonnes for Reuse

Funding year	2008/09	2009/10	2010/11
Crow's Nest Tonnage diverted	171	190	190
Crow's Nest Scrap metal diverted	8	14	21
<b>Total tonnage</b>	<b>179</b>	<b>204</b>	<b>211</b>

## 13.5 DEMAND & GROWTH

Figure 11: Crow's Nest Customers



## 13.6 ISSUES

### Relocation of the Crow's Nest

The Council considered the relocation of the Crow's Nest adjacent to the weighbridge and transfer station area at Redruth during 2010. This was subject to funding being provided by the Ministry for the Environment which was not forthcoming.

### Transport of goods

The shift would have enabled materials to be dropped off at the retail area negating the need for transport to the Crow's Nest from the Redruth transfer station. Council is keen to minimise the transport costs and will continue to work with the Trust to consider improvements.

## 13.7 STATUS

The Council has contracted the Sustainable South Canterbury Trust until 2019 to provide the operations of the Crow's Nest, the kerbside collection and personnel for the Redruth drop-off area. From 2012, the Trust will be responsible for the transport of all reusable goods from all sites to the shop.

The Waste Exchange will be available through the Christchurch City Council website.

## 13.8 DATA AND RECORDS

The following information will be recorded for reuse:

- a) Paying customers using the Crow's Nest.
- b) Tonnes diverted for reuse.



*The Crow's Nest shop sells reusable goods dropped off at transfer stations.*

## 13.9 PERFORMANCE MEASUREMENT

Table 48: Long Term Plan Performance Measures

Year	Measure	Target
<b>Solid waste is diverted from landfill via reuse and other recycling</b>		
2012/13	Tonnages diverted from reuse shop and transfer stations directly.	385 Gross tonnes diverted with Crow's Nest tonnes to comprise $\geq 40\%$ . Increasing at 1 tonne per year.

### Operational Performance Measures

- a) Compliance with operational requirements for site management.
- b) Numbers of paying Crow's Nest customers.

## 13.10 FURTHER OPTIONS

Table 49: Reuse Further Options

Item	Description	Explanation	Budget	Time	Status
1	Stabilise Crow's Nest funding at \$60,000 per annum (flat).	Establishes platform for initiating other ventures.	\$60,000 existing	2012/13 on	Recommended

## 14 Recycling

### 14.1 METHODS

- a) Ensure that recycling of collected commodities is undertaken in a manner not detrimental to human health.
- b) Provide scrap metal drop-off facility.
- c) Provide sorting facility for recyclable materials.
- d) Provide for recycling of materials other than those collected at kerbside.

### 14.2 CURRENT LEVEL OF SERVICE

#### Timaru Materials Recovery Facility (MRF)

The MRF at Redruth was constructed in 2006 to process recyclables from the kerbside collection, transfer stations and from commercial sources.

Materials processed include:

- Glass bottles and jars,
- Newspaper and cardboard,
- Aluminium and steel cans,
- Rigid plastic containers and bottles.

The MRF is currently operated by Transpacific Industries Ltd (TPI) under contract until 2021 with a sub-lease arrangement with Full Circle Recycling Ltd to bale newspaper and cardboard in an annex of the MRF. TPI are responsible for the sale of the recyclables.

Full Circle accept recyclables from private waste collectors and businesses for processing.

The Council owns the building while the sorting plant and equipment are owned by the respective operators.

#### Scrap Metal

Timaru Metal Recyclers offers a 24/7 scrap metal facility in Redruth Street near the Redruth Transfer Station for free drop-off of car bodies, all scrap metal and whiteware. The site is provided by Council while Timaru Metal Recyclers are responsible for the management and operation. There are several other scrap metal businesses operating in the District.

#### Recycling Markets and Standards

During the term of the contract, the value of recyclables may vary affecting revenue from sales. This is market driven and beyond the control of the parties. Should the markets crash, then Council and TPI will need to discuss the implications.

Concerns have been raised in the media in the past about the health and working standards of people engaged in secondary processing of recyclables, often in third world countries, once they have been transported from the Timaru MRF. TPI will need to demonstrate that all recyclables are delivered to markets with reputable environmental, health and safety conditions.

Except for mixed plastics, all recyclables are now sold to local markets.

### 14.3 POLICIES

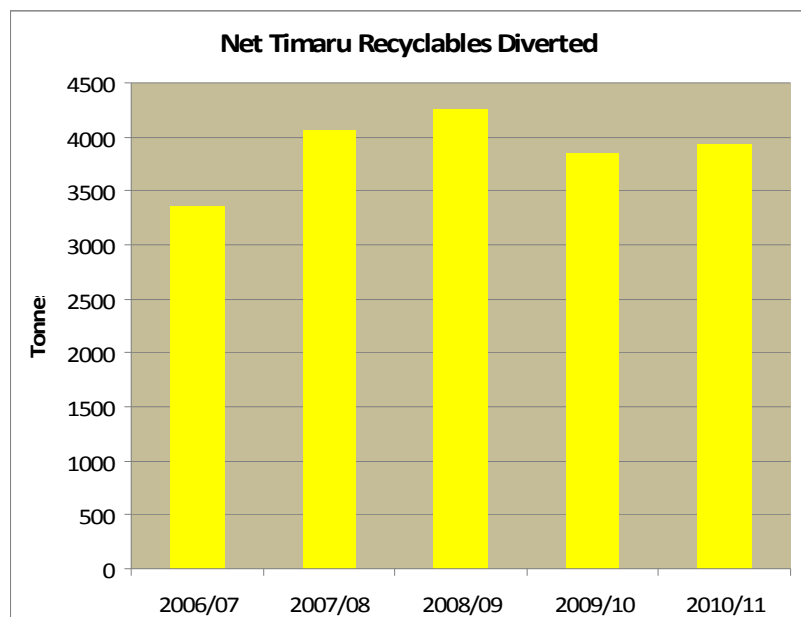
- a) Ensure that recycling services are available for the district.
- b) Ensure that recycling processing is undertaken with regard to reputable environmental, health and safety conditions.

## 14.4 INFORMATION

### Quantities

The net tonnes of materials sent to markets are recorded, less the contamination processing loss.

**Figure 12: Recyclables**



### Contamination and Process Loss

The following reject material is disposed of to landfill from the recycling operations. This material includes waste that is disposed of

with recyclables, and process loss of materials from the Materials Recovery Facility.

**Table 50: Reject Materials**

Year	Gross tonnes	Tonnes	% of gross tonnes
2007/08	5559	1,277	22%
2008/09	5777	1,062	18%
2009/10	4536	1,545	34%
2010/11	5,413	1,489	27%

The following composition of the MRF waste was measured during the landfill audit process in 2011 to determine a UEF. The main waste being rejected is small broken glass; plastics, which comprise a significant proportion of the “other” category; and paper which is the most significant biodegradable material.



**Table 51: Composition of MRF Reject Materials**

Category	%
Garden	0.0
Nappy/Sanitary	8.1
Putrescibles/Food	5.2
Paper	17.5
Sewage sludge	0.0
Timber	2.0
Textile	4.3
Other: includes plastics, metals and other inert materials	43.1
Glass	19.6
<b>Total</b>	<b>100.0</b>

#### **14.5 DEMAND & GROWTH**

The part of the MRF that sorts and processes the kerbside recyclables is not fully utilised, operating only 7.5 days out of 10 over a fortnight for Timaru. There is scope to undertake extra shifts to process extra quantities from other locations if required. The capacity of the plant is 9-10,000 tonnes per annum and it is running at around 50-60% of this capacity.

Recyclables from Mackenzie District have been processed at the MRF, but from 1 July 2012 will be processed at Twizel.

#### **14.6 ISSUES**

##### **Quantities and MRF Capacity**

The quantity of recyclables has dropped slightly in the past two years. Ongoing promotion, education and enforcement are required to maintain quantities being recycled. The Council, in conjunction with

TPI, should be proactive in encouraging recyclables for processing at the MRF as the facility has capacity to process more materials.

##### **Quality**

The Council needs to continue with information, education and enforcement to help reduce waste being included with recyclables for collection. The efficiency of the MRF and materials being thrown out as processing loss needs to be monitored with a goal to reducing this waste.

##### **Residual Plastics**

A significant volume of the residual waste being disposed of as rubbish into the landfill is soft plastics, e.g. bags, film, food packets and styrofoam trays, etc. This quantity of plastic materials is a national issue for all councils wishing to improve waste minimisation. Council needs to facilitate and lobby solutions for these waste streams at a national level. Perhaps a national co-operative body for managing these materials is one option.

##### **Plastic Bags**

In order to be able to process supermarket bags, it will cost approximately \$200,000 to install new processing equipment, and then approximately \$65,000 (net) per annum for extra staff, etc to recycle approximately 200 tonnes, which is \$325 per tonne. This is expensive and the options for plastic bags should be reviewed in 2017.

##### **Glass**

The initial design of the MRF has caused TPI some concern with the effectiveness of sorting glass. TPI have modified the sorting platform

and sort 70% of the glass by hand directly into containers which go to Fulton Hogan for crushing.

Glass is currently sent to Fulton Hogan (at a cost) for crushing for use in roading aggregate. Commodity prices for glass have fluctuated in past times and when the MRF was constructed the price for glass was zero. Consequently, the decision was made not to colour sort the glass, but to send it for crushing. Circumstances and technologies may change, making it worthwhile to collect the glass separately and/or colour sort it if a higher monetary return is guaranteed. Council will need to review the glass situation in the future.

### **Revenues**

The cyclic nature of recycle commodity prices will impact upon revenues for recyclable materials.

## **14.7 STATUS**

TPI is contracted to operate the MRF until 2021. There are no foreseen changes in the levels of service or operations.

Council and TPI will review new technologies and market situations during the term of the contract for consideration of more efficient and new systems and markets.

## **14.8 DATA AND RECORDS**

- a) The net tonnes of materials recycled, less contamination, will be recorded.
- b) While the location and quantity of materials sent to markets may be commercially sensitive, Council will ask TPI to verify that recyclables are sent to markets that have reputable environmental, health and safety conditions.



*Staff at the MRF sort the recyclable materials. Cardboards and waste are separated at this point.*

## 14.9 PERFORMANCE MEASUREMENT

**Table 52: Long Term Plan Performance Measures**

Year	Measure	Target
<b>Solid waste is diverted from landfill via Materials Recovery Facility</b>		
2012/13	Recycling tonnages diverted. Gross tonnes processed at the MRF.	2012/13: 5,500 tonnes Increasing at 100 tonnes per year.

*The LTP measure for other recycling ( recycling diverted other than through processing at the MRF) is listed in Chapter 13 Reuse.*

Year	Measure	Target
<b>Public Information ensures waste is sorted appropriately.</b>		
2012/13	Contamination levels are recorded for the MRF.	2012/13: 25% of gross tonnes Decreasing at 1% per year.

*This performance measure has two parts and includes contamination for the compost facility. The second part relating to compost is listed in Chapter 15.*

### Operational Performance Measures

- Compliance with operational requirements for site management.
- Record net tonnes.

## 14.10 FURTHER OPTIONS

**Table 53: Recycling Further Options**

Item	Description	Explanation	Budget	Time	Status
1	Encourage recyclables from other locations to be processed at the MRF.	Will help the MRF run at capacity and reduce costs.	Existing	2012/13	Recommended
2	Be proactive in trying to facilitate initiatives for improved recycling of plastics that are currently landfilled.	Will stimulate market development and waste minimisation.	Existing	2012/13	Recommended

## 15 Recovery

### 15.1 METHODS

- a) Provide compost facility.
- b) Ensure that health and safety information is provided for compost sold.
- c) Provide oil drop-off sites.
- d) Ensure that oil processing/utilisation-burning or wood chip for burning is undertaken in a manner not detrimental to human health.

### 15.2 CURRENT LEVEL OF SERVICE

#### Composting

Food and garden waste is composted at the Redruth composting facility. TPI is responsible for the overall marketing and sale of compost and relatively good progress is being made on sales.

#### Waste Oil

Drop-off facilities for domestic quantities of waste oil are provided at all transfer stations except Pleasant Point. The oil is collected by Oil Recovery South Island. Private collections for commercial businesses are also carried out by other private oil collection companies.

### 15.3 POLICIES

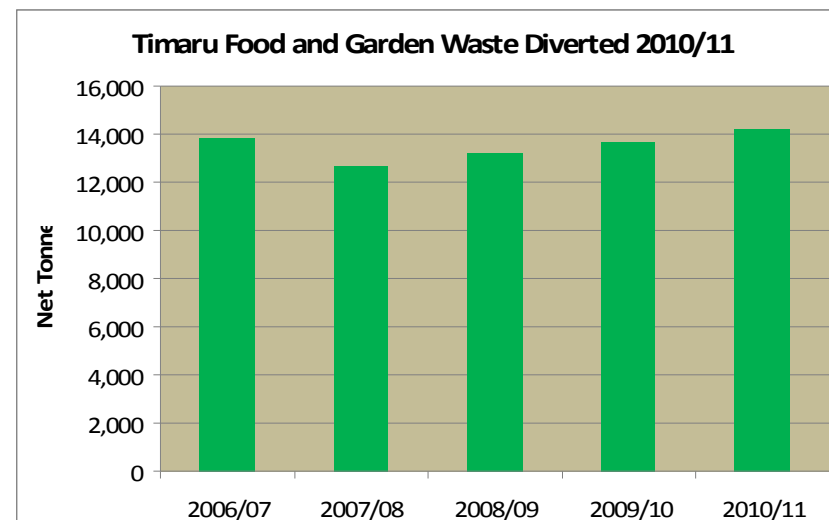
The Council has contracted TPI until 2021, so the current compost methodology shall continue.

The Council will provide drop-off facilities for household quantities of waste oil.

### 15.4 INFORMATION AND AUDITS

#### Quantities

Figure 13: Food and Garden Waste Diverted



#### Contamination and Process Loss

The following reject material is disposed of to landfill from the composting operations. This material primarily includes waste that is disposed of in the wheelie bins.

**Table 54: Reject Materials**

Year	Tonnes	% of gross tonnes
2007/08	528	8
2008/09	443	16
2009/10	304	3
2010/11	144	1

Improved follow up on driver monitoring and kerbside bin auditing has significantly reduced the level of contamination.

### Complaints

**Table 55: Compost Related Complaints**

Year	Complaints Received	
	TDC	TPI
2007/08	0	0
2008/09	2	0
2009/10	2	3
2010/11	0	2

## 15.5 DEMAND & GROWTH

There is likely to be more pressure to recover timber from the waste stream as landfill emission obligations are introduced in 2013.

**Table 56: Growth of Food/Garden Waste Quantities**

Year	Tonnes Diverted	Annual Difference %
2006/07	13,829	0
2007/08	12,696	-8
2008/09	13,261	4
2009/10	13,730	4
2010/11	14,223	3.5

**Table 57: Growth Model for Compost Facility**

Year	Annual (T) 4%	Total (T)	Year	Annual (T) 2%	Total (T)
2011		13,700	2011		13,700
2012	548	14,248	2012	274	13,974
2013	570	14,818	2013	279	14,253
2014	593	15,411	2014	285	14,539
2015	616	16,027	2015	291	14,829
2016	641	16,668	2016	297	15,126
2017	667	17,335	2017	303	15,428
2018	693	18,028	2018	309	15,737
2019	721	18,749	2019	315	16,052

## 15.6 ISSUES

### Compost Site

Some settlement of the compost site has occurred as it has been built on old landfill area. This is being monitored and mitigated with good site management, however, renewals have been planned for in the period of this plan.

### Compost Site Capacity

The compost facility has a capacity to process 16,000 tonnes. At current rates of growth, the existing site may require extending, possibly by 2015, or 2019 if the growth in gross tonnes is slower.

### Compost Quality

In the past, there have been concerns with the compost quality meeting the New Zealand standard for compost NZS 5545 with

regard to arsenic levels and chemical residue from clopyralid. Through a strong public information campaign, the arsenic issue has been addressed, however, clopyralid residue is still being detected during summer months in some grass clippings.

Further public information and education will be required to lessen the impact from clopyralid. With clopyralid no longer available for sale in domestic quantities, the issue should reduce in the future as spray quantities are used up by customers. Compost with elevated clopyralid levels can still be used for turf, pasture and some cropping scenarios.

The timeframes for maturation and storage of the compost product are affected by clopyralid levels and the inability to adequately continue to process the materials to degrade the clopyralid. This is due to a lack of a hardstand maturation area. The existing area is low lying and waterlogged in winter making access difficult. Wet conditions may also encourage the growth of legionella bacteria creating a potential health risk. An extended maturation area needs to be provided.

As long as the operational protocols and instructions to the public are issued and followed, the risk of legionella bacteria is reduced.

Only compost that complies with the NZ compost standard is sold. Any compost not meeting the quality standard is not available for sale to the public.

### **Special Waste**

As the cost of landfilling increases, there is greater opportunity to develop composting infrastructure either by the Council or the private

sector for putrescible waste that is currently landfilled. This is called special waste as it is odorous, wet, difficult to handle and requires special management in the landfill. There is approximately 1,200 tonnes of special waste landfilled per annum, with potentially a further 600-2600 tonnes of other materials that could be composted. To be able to compost this material, suitable bulking materials with good levels of carbon will be required. Bulking materials can be sourced from waste currently used as cover at the landfill. Investigation is required to consider the costs and benefits.

### **Timber Recovery**

A significant portion of the waste stream being landfilled is timber. This has been estimated to be approximately 4,000 tonnes. It is in various forms and some is treated. Timber contributes to the creation of landfill gas and under the pending Emission Trading Scheme (ETS), Council is going to have to pay ETS contributions for landfill gas. By removing timber from the landfill, there is scope to reduce the payments as timber is one component used in calculating a unique emission factor (UEF) for the landfill. Council needs to investigate the actual type and quantity of timber being disposed of along with options for the collection and utilisation of the recovered timber.

## **15.7 STATUS**

TPI is contracted to operate the compost facility until 2021. There are no foreseen changes in the levels of service or operations.

Council and TPI will review new technologies and market situations during the term of the contract for consideration of more efficient and new systems and markets particularly for special waste and timber.

Waste oil will continue to be collected from the transfer stations.

## 15.8 DATA AND RECORDS

The net tonnes of food and garden waste composted, less contamination, will be recorded.

The weight of waste oil collected will be recorded.



*A staff member places a scoop of compost on a trailer. Scoops are available only at Redruth, but 20 litre and 40 litre bags are available for sale at all transfer stations.*



## 15.9 PERFORMANCE MEASUREMENT

**Table 58: Long Term Plan Performance Measures**

Year	Measure	Target
<b>Solid waste is diverted from landfill via composting facility</b>		
2012/13	Organic tonnages diverted. Gross tonnes processed at the composting facility.	2012/13: 14,500 tonnes. Increasing at 400 tonnes per year.

*Compliance with resource consent conditions is an LTP measure in Chapter 20 Public Health and Safety.*

Year	Measure	Target
<b>Public information ensures waste is sorted appropriately.</b>		
2012/13	Contamination levels are recorded for the composting facility.	2012/13: 1% of gross tonnes Decreasing at 0.1% per year.

*This performance measure is in two parts and includes contamination for the MRF. The first part related to recycling is listed in Chapter 14.*

### **Operational Performance Measures**

- a) Compliance with operational requirements for site management.
- b) Record net tonnes.
- c) Record weight of waste oil.

## 15.10 FURTHER OPTIONS

**Table 59: Recovery Further Options**

Item	Description	Explanation	Budget	Time	Status
1	Develop an extended maturation area for compost.	To provide area for increased quantities of compost requiring maturation.	Existing budget \$20,000 p.a.	2013/14 on	Recommended
2	Develop new pads when organic tonnes exceed 16,000 tonnes per annum.	Current compost capacity is 16,000 tonnes pa. Need to add three bays.	\$250,000	2015-2019	Recommended
3	Investigate and implement options for timber recovery.	Potential 4,000 tonnes may be diverted from landfill, reducing ETS obligations.	To be confirmed	2013/14	Recommended
4	Investigate and implement options for special waste composting.	Potential 2,000 tonnes may be diverted from landfill.	To be confirmed	2013/14	Recommended

## 16 Treatment

### 16.1 METHODS

- a) Ensure that any treatment of waste including stabilisation of waste before landfilling is not detrimental to human health.

### 16.2 CURRENT LEVEL OF SERVICE

#### Hazardous Waste

Timaru District Council provide a hazardous waste collection point at all transfer stations for household quantities of hazardous material and can also put businesses in contact with service providers for larger quantities. Some paint is picked up by 3R on behalf of Dulux for their product stewardship programme and Resene for the Resene Paintwise programme. The remainder of the paint is collected by Enviropaints, Otaki, where most paint is recycled into new paint. Any hazardous waste, which is not recoverable, is picked up by hazardous waste collection company, Chemwaste, for treatment and disposal. The disposal of the chemicals collected at the transfer station costs about \$18,000 per annum. A small levy for users could be considered to decrease costs, but the economic benefit of this would have to be weighed against the environmental benefit of collecting a wide range of hazardous goods for safe disposal due to the service being free.

Co-ordination of a regional collection system to reduce costs is under consideration through the Canterbury Waste Joint Committee.

#### Agrichemicals

Prior to 2008, the Council provided a free collection of agrichemical across the whole District in conjunction with Environment Canterbury.

Collection of the redundant chemicals has now been completed with the last collection being in February 2009. There is no need for Council to provide another district-wide collection of agrichemicals, even though some farmers may still have unwanted chemicals. Farmers with small quantities of less than 20 litres may drop these amounts at transfer stations or to their supplier, if this service is available, otherwise they must either contact a commercial hazardous waste collector or return the amount in liaison with their supplier.

Council refers people with chemicals to specific chemical recovery companies, or chemical containers and other agricultural plastic wastes to Plasback or Agrecovery.

#### Medical Waste

Hazardous waste services, such as medical waste collection and disposal are provided to hospitals and doctors' surgeries by private companies and this material is taken by Interwaste to Dunedin where it is incinerated.

#### Stabilisation of Waste

Some waste may be accepted for disposal at the Redruth landfill with pre-treatment or stabilisation. This may include adding bulking agents to solidify wastes containing liquids, e.g. adding sawdust to wet sludges.

Hazardous wastes requiring disposal at Redruth are all considered for disposal through a waste manifest system. Each manifest is assessed by the Senior Waste Management Officer (SWMO). Where applicable, e.g. asbestos, waste disposal locations are surveyed.

Waste Acceptance Criteria guidelines were drafted in 2012 for Redruth Landfill based on A grade landfill status, resource consents, council bylaws and Ministry for the Environment guidelines.

### 16.3 POLICIES

- a) The Council will accept hazardous or special solid waste for treatment which may be disposed of to Redruth landfill in accordance with operational and resource consent requirements.
- b) Small household quantities of hazardous waste will be accepted at the transfer stations free of charge.

### 16.4 INFORMATION

**Table 60: Waste Manifest Application**

The SWMO approved the following number of applications.

Year	Number	Tonnes
2009/10	25	33.22
2010/11	26	43.43

**Table 61: Household Hazardous Waste from Transfer Stations**

Year	Tonnes
2009/10	1.2
2010/11	0.93

### 16.5 DEMAND & GROWTH

The quantity of waste collected has remained low over the past several years. Quantities may reduce if a specific charge is introduced.

### 16.6 ISSUES

#### Cost

There are no disposal fees for household hazardous waste disposal. For the 2010/11 year this service cost \$18,000. Council may review the quantities being disposed of and consider the introduction of a specific disposal fee, or include the disposal cost in conjunction with other waste being disposed of.

### 16.7 STATUS

Council will approve receipt of hazardous waste via the waste manifest system.

Council will provide a service for the drop-off of small household quantities of hazardous waste.

### 16.8 DATA AND RECORDS

The following data will be recorded:

- a) A summary of waste manifests for materials disposed of as hazardous waste.
- b) Quantities and details of the hazardous waste materials collected at the transfer stations.

## 16.9 PERFORMANCE MEASUREMENT

### Operational Performance Measures

- a) Measure tonnages of hazardous waste retrieved and managed.
- b) Compliance with operational requirements for site management.

## 16.10 FURTHER OPTIONS

Table 62: Treatment Further Options

Item	Description	Explanation	Budget	Time	Status
1	Investigate options to implement a small charge for hazwaste drop off.	To provide some cost recovery for this service from users.	N/A	2013/14	Recommended

## 17 Disposal

### 17.1 METHODS

- a) Provide a landfill for safe disposal of waste in compliance with legislative requirements.
- b) Provide a disposal option for cleanfill.
- c) Monitor closed landfill sites.

### 17.2 CURRENT LEVEL OF SERVICE

#### Redruth Landfill

The Council owns a landfill at Redruth for the disposal of solid waste. The landfill is consented to 2030 and the landfill has a life currently estimated to range between 30-50 years. The landfill is operated by Transpacific Industries Ltd under contract until 2021. The Council sets the fees and charges at the landfill and retains the revenue. Waste is also accepted from the Waimate District.

The landfill is open to accept waste Monday to Friday. Waste can be disposed of at the Redruth transfer station on other days by commercial providers if required.

#### Cleanfill Sites

The Council accepts cleanfill at the following locations:

**Table 63: Locations Cleanfill Accepted**

Location Cleanfill Accepted	Quantity Accepted	Destination
Redruth Landfill	Truck loads	Cover for tipping face and civil construction
Redruth transfer station	Trailer loads	Cover for tipping face and civil construction
Temuka transfer station	Trailer loads	Old Temuka landfill
Geraldine transfer station	Trailer loads	Old Geraldine cleanfill
Pleasant Point transfer station	Trailer loads	Old Pleasant Point landfill

#### Closed Landfills

The Council has a closed landfill management plan and monitors six closed landfill sites in accordance with resource consent conditions.

The sites are as follows:

1. Old landfill areas at Redruth.
2. Parerora.
3. Temuka.
4. Pleasant Point.
5. Geraldine.
6. Peel Forest.

### 17.3 POLICIES

- a) Council policy is to recover 100% of solid waste disposal costs from fees.
- b) Council will set differential fees from time to time to provide economic disincentives and incentives.
- c) Council will accept solid waste from the Mackenzie and Waimate districts for disposal into the Redruth landfill.

- d) Council may vary the opening days of the landfill to suit waste quantities.
- e) Waste can be disposed of at Redruth transfer station on closed landfill days.
- f) The landfill and transfer stations are closed on Christmas Day, New Year's Day and Good Friday.
- g) Commercial waste operators disposing of waste directly to the landfill will be permitted.

## 17.4 INFORMATION AND AUDITS

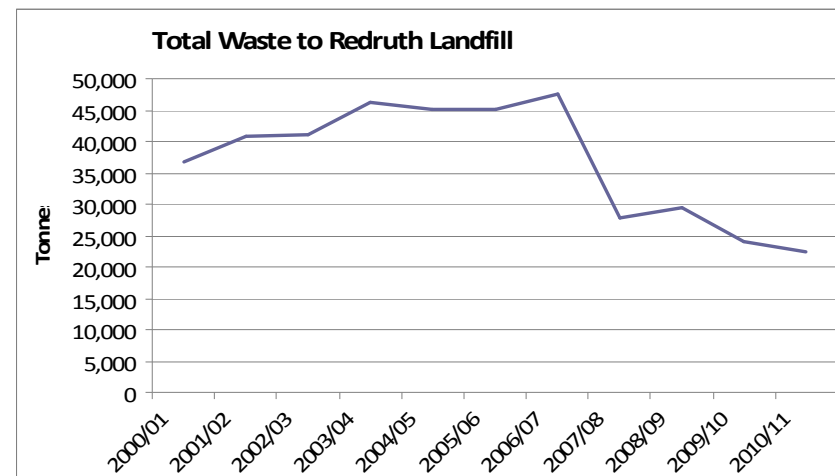
### Information

The Council website lists information on the public hours, applicable fees and the materials that may be taken to landfill. Brochures, information and media in local newspapers and radio is also used to inform residents about landfill matters.

### Landfill Quantities

The introduction of the three bin kerbside collection in 2006 resulted in a significant reduction of waste being landfilled, primarily due to the quantities of garden waste which is now composted. Increasing fees and user pays via the weighbridges have also seen more business waste diverted for recycling as in cardboard and scrap metal.

**Figure 14: Waste Disposed of to Redruth Landfill**



### Waste Composition & Potential Minimisation

A visual solid waste audit of private collection operators disposing of waste at the landfill was completed in 2009. Of the waste disposed of at the landfill, the following 38.5% potential diversion is possible:

- 19% of disposed materials could be recycled.
- 1.5% of disposed materials could be reused.
- 1.4% of disposed materials could be used as cleanfill.
- 16.3% of disposed materials could be composted.
- 0.3% of materials disposed are electrical goods, which could be recycled.

A further 19.1% of waste timber could be diverted providing a suitable alternative technology is developed for the timber waste. Approximately 3% of this is treated timber with the balance being a composition of MDF and other off-cuts.



Overall, up to 57.6% of waste currently disposed of by private collection contractors could potentially be diverted.

Another waste analysis was conducted in June 2011 for all waste being disposed of to landfill to calculate the Unique Emission Factor for the Emissions Trading Scheme. Timber was identified as the largest category. Putrescible waste was the second largest category which includes the sewage plant millscreenings and Alliance meat works screenings at approximately 2,000 tonnes per annum.

**Table 64: Waste Composition for UEF**

Category	Redruth Waste Excluding Cleanfill %
Garden (GW)	5.3
Nappy/Sanitary (NSW)	3.4
Putrescibles/Food (OPW)	13.5
Paper (PW)	9.6
Sewage sludge (SSW)	0.0
Timber (TMW)	18.3
Textile (TXW)	6.4
Other	43.5
<b>Total</b>	<b>100.0</b>

## 17.5 DEMAND & GROWTH

For the 2009/10 and 2010/11 years nearly 24,000 tonnes of waste was landfilled. In the 2011/12 year, waste is predicted to drop to about 16,000 tonnes due to waste flight with commercial waste from

Timaru and Mackenzie District waste being transported to an out-of-district landfill.

Timaru District Council's Redruth Landfill is consented until 2030, however, the whole of life plan developed by Canterbury Waste Services indicates that the landfill has the potential airspace capacity to surpass its consented life, and will extend beyond the current consent term as whole of life design takes effect and waste minimisation plays its part.

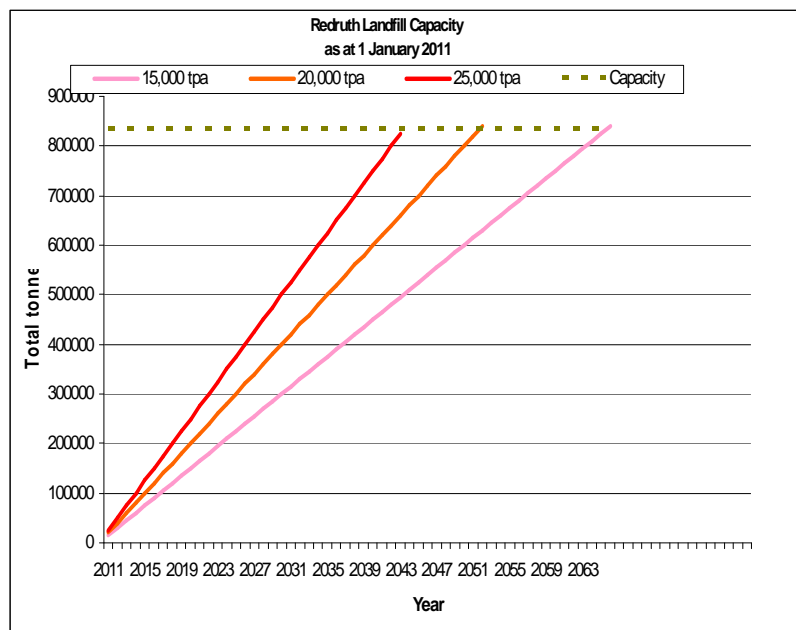
The estimated remaining capacity of the landfill cells in Stage 3 in tonnes from 1 January 2011 based on the Whole of Life Plan (October 2011) is 835,000 tonnes. The graph below shows different landfill life expectancies for annual tonnages received at 25,000 tonnes, 20,000 tonnes and 15,000 tonnes. Of course, annual tonnages are expected to decline gradually over a number of years rather than declining in fixed increments long term, but the model does show the effect of decreasing tonnages on landfill life.

The landfill is expected to last between 30-50 years.

**Table 65: Estimated Landfill Life**

Remaining Capacity Redruth Landfill Stage 3 (as of 1 January 2011)	835,000 tonnes	
Estimated Landfill Life	Tonnes per annum	Life (Yrs)
Tonnes landfilled per annum	25,000	33.5
Tonnes landfilled per annum	20,000	42
Tonnes landfilled per annum	15,000	55

**Figure 15: Landfill Life Modelling**



## Complaints

**Table 66: Landfill Complaints**

Year	Complaint	TDC Number	TPI Number
2007/08			
2008/09		1	1
2009/10	Litter in wetland	2	1
2010/11			0

## 17.6 ISSUES

### Landfill Gas

The requirements of the National Environmental Standard (NES) for air quality for landfills, which was introduced in October 2004, are summarised as follows:

- All operative landfills with total capacity of over 1 million tonnes of refuse are required to collect and destroy or utilise landfill gas.

***The Redruth Stage 3 Landfill design capacity is just under 1 million tonnes.***

- NES does not apply to closed landfills.
- NES does not apply to landfills having less than 5% organic (putrescible and biodegradable) matter.

***It is estimated that in 2007/08 there was approximately 10% organic matter still being landfilled at Redruth.***

- Non-complying sites had until October 2007 to install a gas collection system. This gives time for the landfill to fund, design and install a system.
- Surface methane emissions shall be less than 5000 ppm.
- A landfill gas collection system shall be designed, and operated, to ensure that surface methane emissions do not exceed 5000 ppm.

A grid surface survey was undertaken in 2008 of the Redruth site that was landfilled from 1975 until 2008.

Overall for the site, no landfill gas was detected from the surface survey, but there was gas detected at uncapped leachate/gas vents at the northern end of the landfill with recordings of 250ppm to 650ppm. If these vents are capped, and the gas emitted from them destroyed, the need for a comprehensive gas collection system is

unwarranted. It is suggested that a simple gas collection system and single gas flares are installed at the main leachate pump-well to capture and destroy any gas that accumulates in the leachate drainage system.

The Council commissioned American landfill gas specialist consultants, SGS Wetherill, in 1998 to determine the viability of landfill gas utilisation. The consultants' conclusion was that, given the shallow depth of the landfill, it was not economically viable to collect and use landfill gas. The removal of the organic waste stream, which is a main contributor to landfill gas, is a factor in the small amount of landfill gas accrued. The landfill leachate system was designed to passively vent any gas up vents around the edge of the landfill. The vents have now been capped to mitigate any gas escape.

It is proposed to install three test wells, gas reticulation and a passive flare on the south side of the site in the 2011/12 year to ascertain the level of gas production from the waste currently being placed. The cost of installing a system to collect landfill gas could cost in the range of \$200,000 - \$2 million depending upon what is installed. The lower cost systems are based on low gas levels requiring small flares at the leachate vents, and the higher cost systems will be required if the gas levels are high, and a large high efficiency flare is required.

Gas volumes will be monitored and, should they reach the point where commercial collection is viable options will be considered.

#### **Redruth Landfill Leachate & Storm Water**

The disposal of leachate and storm water from Redruth landfill needs to be reviewed. In particular, the longer term option of re-circulating leachate back into the landfill for evapo-transpiration during summer

months will reduce the quantity of leachate disposed of to the sewer system. A leachate recirculation system will be installed in 2012/13 as the capping at the south end of Stage 2 is completed and extensions will be added as Stage 2 capping progresses. Recirculation will take place as conditions allow. The capping system needs to be improved to reduce storm water infiltration into the leachate system from the landfill and compost site. In 2012, a batter will be completed on the south and east sides of Stage 2, and capping will continue progressively as capping material becomes available.

#### **Emission Trading Scheme (ETS)**

From 1 January 2013, Council will have to pay for ETS obligations. The default payment is a factor of 1.1 x carbon unit per tonne of waste landfilled. A New Zealand carbon unit is currently estimated at \$25, therefore for 1 tonne of waste landfilled, Council has budgeted for pay \$27.50 (excluding GST). Market conditions, however, may mean carbon units can be purchased for less.

Because Council has removed significant quantities of materials that create landfill gas, Council may be able to reduce the amount of the obligation by applying for a reduced rate using a Unique Emission Factor (UEF). The UEF is calculated based on i) an analysis of waste being landfilled ii) landfill gas capture and recovery. A waste analysis of the waste being landfilled was completed in June 2011.

#### **ETS Conclusions**

- a) The UEF calculated for the Redruth landfill excluding cleanfill is 1.08 which will result in a carbon obligation of \$540,000 for 20,000 tonnes of waste. This is just below the default value of 1.1 which will cost \$550,000, a saving of \$10,000.

- b) Allowance for food waste diverted from the landfill is not included in the default UEF as prescribed under section 5 of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010. The regulations should be reviewed to take into consideration the diversion of food waste from the landfill.
- c) If Council was to undertake further putrescible waste minimisation resulting in an overall reduction of waste to landfill by 9.8%, this would only result in a 1.9% reduction in the UEF to 1.06, because the weightings in the UEF formula offer little benefit as the allocations re-adjust to make up 100%.
- d) Timber has a higher weighting in the UEF formula, so if 45% timber was diverted from landfill resulting in an overall reduction of waste to landfill by 8.2%, the UEF will reduce by 13.9% to 0.93.

### **Disposal Fees**

As the disposal cost of waste increases, the cost effectiveness of waste minimisation initiatives become more viable compared to landfilling. Alternatively, the possibility of alternative disposal options may arise, including transporting waste out of the district and illegal dumping.

Council will have to consider its pricing structure and acceptance of waste to ensure that revenue budgets are achieved for the landfill and transfer stations.

### **Economic Viability of the Landfill**

As waste tonnes being landfilled decrease, the ability to recover the landfill's fixed operational costs through disposal fees is reduced. Council then needs to consider options for recovering the shortfall from the fees to cover the fixed costs for the landfill operations. Savings in variable costs for operating the landfill need to be achieved.

Council will need to monitor the impacts of further reductions in waste quantities being landfilled and consider alternative options for waste disposal and funding if deemed necessary by Council.

### **By-Law**

The full Solid Waste Bylaw was implemented in 2010 for licensed permit holders disposing of waste direct to the landfill tipping face.

From 1 October 2010, clean packaging polystyrene has been banned from landfill for landfill access permit holders under the conditions of their permits.

Landfill auditing has been introduced to monitor compliance with the bylaw. Monitoring of the bylaw to date involves random landfill visits to the tipping face, photographs taken of waste disposed of with follow-up visits to waste generators to help improve sorting of waste and diversion. At this stage, Council staff are undertaking an educational approach rather than a strict enforcement approach.

The list of banned items at the landfill includes:

- Petroleum oil,
- Lead acid batteries,
- Newspaper and recyclable paper as notified by Council,
- Cardboard,
- Glass bottles and jars,
- Aluminium cans,
- Rigid plastic containers as notified by Council,
- Compostable garden and food waste as notified by Council,
- Steel cans,
- Ferrous and non ferrous metals as notified by Council,

- Polystyrene.

It is proposed to amend the list in the First Schedule of the bylaw to include a generic statement "and any other material(s) or item(s) notified by Council" to allow for further bans on other materials.

The bylaw is currently not being enforced at transfer stations or for the kerbside rubbish collection.

### **Cleanfill Sites**

Council has a number of old gravel pits that could be used as cleanfill sites, e.g. sites located at Divan Road and Coach Road. Council should consider identifying these sites and any other ones for future emergency fill sites as part of an emergency management plan. It is prudent to obtain appropriate approvals or consents so that the sites can be officially nominated as sites for emergency use. It would be expected that certain conditions will apply for emergency sites and these will determine what materials can be accepted, any pre-sorting that may be required, storage time and any other condition that may pertain to the site. This pre-empts any possible delays during the event or issues with planning and consents after the event.

### **Waitaki Landfill**

The Oamaru landfill will close in 2016. The Waitaki District Council will need to consider other options for future waste disposal prior to this date. This may include development of a new landfill or transport of waste to a landfill out of the District. The Redruth landfill could be a viable option and the Timaru District Council should have discussions with the Waitaki District Council prior to 2016.

### **Long Term Use of the Landfill Site**

The Council has a "whole of life (WOL) plan" for Redruth landfill. The WOL plan is designed to provide a framework for the overall site planning and links to the asset management plan for the landfill, as well as to the LTP and Annual Plans. The plan is highly dependant on the likely long term use of the site. A long term use has not been confirmed yet and it would be prudent to consider this to enable planning and design for future utilisation to be incorporated into the WOL plan. The plan has been created using all known asset data, but some gaps still exist in the exact location of underground services. These are due to be surveyed in February 2012.

### **Illegal Dumping and Burning Waste**

Illegal dumping is when people chose to dispose of their waste usually in public locations, however, some dumping may occur on private property in non-approved pits, etc. There is always an element of the community that will dump waste in river beds, on road sides and at other locations. Even when Council had free dumping at the old tip sites, people still chose to dump waste in river beds, etc.

As tipping fees increase, people may seek alternative disposal options and illegal dumping may increase. Burning of waste is one option; however, this is prohibited under a Council bylaw. It is difficult to monitor situations where approved burn off and fires may include general waste.

It is important to record and monitor incidents of illegal dumping along with enforcement and follow-up measures. Illegal dumping is monitored by the Council's Pollution Prevention Officer, and also by Environment Canterbury for river bed and foreshore areas.

### **Natural Disasters**

Based on historic events, there is a need for Council to plan for the cleanup of debris and waste after a major natural disaster. Council needs to prepare for and recover more quickly from the increased solid waste generated by a natural disaster. The most severe natural disasters generate debris in quantities that can overwhelm existing solid waste management facilities or force communities to use disposal options that would not normally be acceptable. Recent events include the floods of 1985 and the snow of 2006 which both generated significant quantities of debris. Earthquakes in Christchurch have demonstrated the significant amount of debris that can be generated.

### **Waste Spills and Events**

In the case of a significant spill or event, there may be a requirement to dispose of waste to Redruth landfill. The type of waste and the quantity of chemical will determine if it is acceptable to dispose of it to landfill. Pre-treatment may be required to enable the waste to be accepted. Advice from the Council's contractor and or specialist advisors will be required. Application via the waste manifest system will be required.

### **17.7 STATUS**

The landfill and cleanfill operations are contracted to TPI until 2021.

Council will continue to monitor the landfill sites in accordance with resource consent conditions and the Closed Landfill management plan, however, the monitoring requirements will be reviewed for sites that no longer pose any adverse effects.

The council will review the viability of the Redruth landfill pending further reductions of quantities being landfilled.

### **17.8 DATA AND RECORDS**

The following data is recorded:

- a) Quantities of waste and cleanfill.
- b) Groundwater and surface water quality parameters.
- c) Composition of waste disposed of every five years or at lesser intervals as determined by Council from time to time.



## 17.9 PERFORMANCE MEASUREMENT

### LTP Performance Measures

For the closed and operating landfills, compliance with resource consents is important. The measure for compliance with resource consents is included in Chapter 20 Public Health and Safety.

### Operational Performance Measures

- a) Annual tonnage of waste disposed of to landfill.
- b) Annual tonnage of cleanfill utilisation at the landfill.
- c) Measure the composition of material disposed of to landfill every 5 years.
- d) Compliance with operational requirements for site management.

## 17.10 FURTHER OPTIONS

**Table 67: Disposal Further Options**

Item	Description	Explanation	Budget	Time	Status
1	Review of landfill viability.	Undertake regular reviews and explore options.	n/a	2012 on	Recommended
2	Ensure waste disposal options are included in emergency plans.	Emergency planning for solid waste will enhance ability to respond while maintaining a high level of compliance.	\$20,000	2012/13	Recommended
3	Complete capping of closed landfills.	Surface of closed landfills need complete caps to reduce storm water infiltration and leachate generation.	\$20,000	2012-2017	Future Option
4	Allocate funding for after-care costs.	Money needs to be set aside for the maintenance of the landfill during its post-closure period.	\$100,000pa. \$5/tonne waste	2013 on	Recommended

## 18 Community Participation, Information, Public Places & Events

### 18.1 METHODS

- Provide public place litter bins and collection.
- Provide litter and illegal dumping enforcement.
- Support zero waste events.
- Offer talks and tours on waste minimisation.
- Fund Enviroschools.

### 18.2 CURRENT LEVEL OF SERVICE

#### Public Place Collection

Council provides public litter collection in Central Business Districts, shopping areas, Council facilities, parks and reserves. Only rubbish/litter bins are provided with no recyclable capacity, except for a trial 3 bin system at Caroline Bay.

The litter bins are emptied at a frequency to ensure that the bins do not overflow so that spillage of litter is kept to a minimum. The management of the litter bins is undertaken by the Land Transport Unit and Parks Units of the Council with all work contracted out.

**Table 68: Litter Bin Summary**

Service	No. bins	Contract
Street litter bins	200	30 Sept 2014
Parks litter bins	269	Varied

#### Illegal Dumping and Litter

Council employs a litter enforcement officer to monitor and enforce illegal dumping of solid waste. The management of litter enforcement is undertaken by the Planning and Regulation Group of the Council.

Council is trialling wheelie bins at Caroline Bay for the separation of materials for recycling.

#### Event Management

Council provides a “Zero Waste Event Guide” and infrastructure and assistance through the Solid Waste Unit to help ensure that waste minimisation is provided at public events in the District.

#### Enviroschools

Council has funded the Enviroschools programme offered through Environment Canterbury since 2008. From 2011/12, the contribution was raised from \$3,000 to \$5,000 per annum.

### 18.3 POLICIES

- a) Council will continue supporting public events with advice and resources for the minimisation of waste.
- b) Council will provide better collection in public areas.

### 18.4 INFORMATION AND AUDITS

An audit of the 45 litter bins at Caroline Bay was conducted in March 2010. The results showed that of the 323 kilograms of waste generated weekly, 113 kg could be composted, 111 kg recycled, with 99kg having to be landfilled.

The assistance sought for “Zero Waste Events” increased from 1-2 events in 2005 to 16 events in 2009/10 and 24 events in 2010/11.



Council has purchased a range of resources including posters, bins and collection containers to enable participants to sort their waste.

The Rose Festival and the South Canterbury Wine and Food Festival are annual examples of public events, along with many sporting, cultural and business events with up to several thousand people attending that have received assistance from Council staff.

### **18.5 DEMAND & GROWTH**

Since the three bin kerbside collection service was introduced in 2006, there is now greater community awareness of waste minimisation. The community are now more aware of correct separation of materials and to only provide rubbish/litter for public areas is not providing the public image of a community that is environmentally responsible. Recycling receptacles are now provided in other regions, so it is timely for the Timaru District to raise the profile of recycling in public places.

### **18.6 ISSUES**

#### **Illegal Dumping**

If Council did not provide a kerbside collection service, it is likely that illegal dumping would escalate and incur costs for Council. There is likely to always be incidents of illegal dumping and if disposal fees continue to rise, then the incidents may increase.

#### **Public Events**

Historically Council staff have provided a “hands on approach” to helping manage waste minimisation for public events. While there is an education component for organisers to follow, event organisers need to take responsibility for the waste their events generate and

manage this in accordance with the Solid Waste Unit Zero Waste Event Guidelines.

#### **Public Place Bins**

There is a significant capital cost to install new recycle bins for public places.

### **18.7 STATUS**

Monitor and report on illegal dumping incidents.

Continue to provide Zero Waste Event infrastructure, advice and support when necessary.

### **18.8 DATA AND RECORDS**

The following data is to be recorded:

- a) Incidents of illegal dumping at transfer stations
- b) Number of talks and tours
- c) Number of businesses assisted
- d) Number of Zero Waste Events

## 18.9 PERFORMANCE MEASUREMENT

Table 69: Long Term Plan Performance Measures

Year	Measure	Target
<b>Public information and education promotes waste minimisation</b>		
2012/13 on	Opportunities exist for the public to learn about waste minimisation through talks and tours, business support and events support: <ul style="list-style-type: none"> <li>Numbers of business assistance</li> <li>Zero waste events</li> </ul>	52 businesses assisted per annum 25 events supported per annum
2012/13 on	Kerbside waste to landfill per red bin pickup reduces	12 kg per bin reducing at 0.5 kg per year

### Operational Performance Measures

Illegal dumping at transfer stations

## 18.10 FURTHER OPTIONS

Table 70: Community Participation Further Options

Item	Description	Explanation	Budget	Time	Status
1	Install public place recycling facilities in highly used areas.	Will improve public profile and waste minimisation. Enables public to sort in public as they would at home.	To be determined as options are assessed	2013/14 +3 years	Future Option

## 19 Public Health and Safety

### 19.1 METHODS

- a) Have in place a Council Health and Safety system for all solid waste services to ensure compliance with all legislative requirements.
- b) Incorporate health and safety requirements into contract documents.
- c) Utilise contractors who have a health and safety system as a priority to reduce harm to their staff and the general public.
- d) Discuss and review health and safety at contract meetings.
- e) Council has a staff Health and Safety committee.
- f) Utilise the Council solid waste bylaw as necessary for protection of health.
- g) Provide the public with information on health and safety.
- h) Make improvements where necessary to reduce health and safety risks.
- i) Require Landfill Access Permit holders to provide a health and safety plan incorporating precautions for use of the landfill site.

### 19.2 POLICIES

Council gives a high profile to health and safety and has a range of policies to promote and implement good practice.

In most cases, for contractors employed under tendered or negotiated contracts, Health and Safety requirements are stated.

Contractors employed in one-off situations must be from the "Council's Approved Contractors" listing.

### 19.3 INFORMATION AND AUDITS

The Timaru District Council undergoes an annual ACC audit performed independently by Lucas, and in 2011, once again achieved a tertiary level rating. This covers all TDC sites.

Transpacific Industries Ltd, Council's waste management contractor, has a comprehensive health and safety system and have an annual internal audit system.

TDC report monthly against a range of factors for health and safety. Serious incidents are reported immediately to the Senior Waste Management Officer for follow-up.

### 19.4 ISSUES

#### Transfer Station Unloading

In the past there were a number of issues with the public unloading waste at transfer stations with a drop into the waste pit area. Some trailers have flipped into the pit area through people lifting the trailer to tip waste off and a few people have fallen over the edge.

In recognition of this hazard, Council has installed guardrails to prevent people from falling and installed concrete platforms to stop the trailer to enable safer unloading practice.

Contractors and members of the public may not comply with site rules. TPI staff report incidents to Council for follow up. A protocol regarding non-compliance will be effective from 1 July 2012.

### 19.5 STATUS

Council will continue with the existing Health and Safety policy and system.

## 19.6 DATA AND RECORDS

The contractor's monthly report gives monthly and YTD data on injuries and incidents.

**Table 71: Contractor's Health and Safety Data Summary**

Category	2008/09	2009/10	2010/11
Lost time Injuries	0	0	0
Medical Treatment Injuries	6	12	7
First Aid Treatment Injuries	8	28	31
Environmental Incidents	13	6	9
Motor Vehicle Incident	4	3	1
Equipment/Property Damage	127	15	20
Near Misses	39	15	9
Process	9	14	19
Complaints	4	4	2



*The new flat floor system installed in 2010 has two systems. For operators with tipping trucks access is gained via a gate. For vehicles tipping units, a flat floor back stop and guard rails have been installed.*

## 19.7 PERFORMANCE MEASUREMENT

The ultimate aim is to have zero harm in the work place and for the public using the Council facilities and services.

**Table 72: Long Term Plan Performance Measures**

Year	Measure	Target
<b>No adverse effects on the environment or human health from the operation of solid waste facilities</b>		
2012/13	Compliance with resource consent conditions* *(other than for minor breaches)	Full compliance with resource consent conditions*

**Table 73: Health and Safety Further Options**

Item	Description	Explanation	Budget	Time	Status
1	Add a requirement for Landfill Access Permit holders to submit a Health and Safety Plan.	The landfill site users must apply for a Landfill Access Permit, and due to the nature of the site, should recognise health and safety practice through the provision of a health and safety plan.	N/A	1 July 2012	Recommended
2	Write a protocol regarding non-compliance with site rules.	Repeated non-compliance of site rules may require follow-up.	N/A	1 July 2012	Recommended

## 20 Environmental Protection

### 20.1 METHODS

- a) Have in place a Council environmental management system for all solid waste services to ensure compliance with the Resource Management Act.
- b) Utilise the Council Solid Waste Bylaw as necessary for protection of the environment.
- c) Provide the public with information on environmental issues.
- d) Incorporate environmental management requirements into contract documents.
- e) The main contractor providing the operational services for the kerbside collection, transfer stations and the Redruth operations shall have an environmental management system.
- f) Discuss and review environmental management at contract meetings.
- g) The Council has a staff Health and Safety committee.
- h) Make improvements where necessary to reduce environmental risks.

### 20.2 POLICIES

Environmental policy is activity based. The Solid Waste Unit has Environmental Management Plans for the closed landfills and transfer stations.

### 20.3 INFORMATION AND AUDITS

#### Landfill Monitoring

The Council undertakes monitoring of the six closed landfills in accordance with the Closed Landfills Management Plan and resource consent conditions. Monitoring of the operating Redruth landfill is also undertaken in accordance with resource consent conditions.

The operating Redruth landfill includes:

- Groundwater and surface water quality in and adjacent to the landfill.
- Groundwater levels under the landfill.
- Leachate disposed of to the sewer system.
- Waste quantities.
- Waste density and landfill life.
- Hazardous waste and special wastes.
- Site Operations.
- Complaints.
- An assessment of environmental effects from the landfill site and associated operations.

In the past (mid nineties) there was a significant risk at the Peel Forest site of the Rangitata River undermining the river terrace of the old tipping face. Waste was removed from the lower part of the gully, and the risk has significantly lessened as the river has moved away from the toe of the embankment. Leachate monitoring of the river has shown no sign of pollution. Some work is required in the future to cover exposed waste in the gully.

Some minor leachate was initially detected at the Pleasant Point old landfill site. This is in an aquifer approximately 4.5m in depth. The depth to groundwater measured in 1998 ranges from 4.5 to 6.02 metres. There have been no noticeable adverse effects from the site.

There are a number of other known sites that are not monitored because of their small nature and minimal impact. These sites are recorded in a hazard register.

There have been no environmental effects identified in the monitoring report covering 2009/10 and 2010/11 years. Results to date have been collated into a database and an analysis of these results was undertaken with the trigger levels for the water sampling at the monitoring boreholes being reviewed.

At some sites, monitoring will reduce in frequency, but at several sites one more year of monitoring will be undertaken at existing monitoring locations and, where possible, monitoring wells which are in place but not currently used will be sampled. Based on the following years results, a further review of the monitoring programme will take place. Water readings at the extra monitoring sites will also help determine the groundwater flow more clearly.

#### **Landfill Gas**

*(See section 18.6 page 82.)*

#### **Complaints**

Complaints are recorded by both TPI and TDC and appropriate action is taken.

#### **Contract Management**

The Council has monthly contract meetings and undertakes monthly inspections to ensure that the services are not impacting upon the environment.

### **20.4 DEMAND & GROWTH**

It is expected that there will not be any adverse effects from increases in waste quantities providing operational protocols and processes are followed. If organic waste quantities look to exceed 16,000 tonnes,

then the Council will need to consider developing further processing area. Failure to do this could result in odours from stockpiled material awaiting processing. There is plenty of capacity for all other facilities.

### **20.5 ISSUES**

#### **Council Environmental Management System**

While Council undertakes monitoring and reporting of various sites, it does not have an overall formalised environmental management system for the solid waste service, nor for Council as a whole.

#### **Odour**

Failure to follow landfill and compost procedures and protocols could result in odour generation from these sites. It is important for the site operators to adhere to all operating requirements.

#### **Litter**

There is the potential for litter from all solid waste activities. The site operators are responsible for the collection of windblown litter.

### **20.6 STATUS**

Complaints are recorded and follow up noted.

Contract meeting minutes are recorded.

Resource consent actions are in a database and tasks are actioned and recorded.

### **20.7 DATA AND RECORDS**

Council will monitor the respective sites to obtain the data required for resource consents. Such information includes water quality

parameters, soil sediments, waste quantities, waste manifest and the location of certain wastes.

The contractor provides site inspection reports monthly.

Council also keeps a complaints log. Council's contractor, TPI, is required to provide data in regard to the contract operations and environmental incidents. *(See Section 20.6 p 92.)*

**Did you know these items are hazardous waste?**



**Free Drop-off for domestic quantities (max 20 kg or 20 litres)**

*All transfer stations have free drop-off for domestic quantities of hazardous waste.*



## 20.8 FURTHER OPTIONS

**Table 74: Environmental Management Further Options**

Item	Description	Explanation	Budget	Time	Status
1	Consider implementing an Environmental Management System.	A plan would provide comprehensive strategy for managing environmental issues.	Internal	2012/13	Recommended

## 21 Effective Services

### 21.1 METHODS

- a) Minimise waste disposed of to landfill and maximise materials diverted from landfill.
- b) Consider new methods, systems, innovation and new technologies to improve waste minimisation.
- c) Establish benchmark values and measure trends.
- d) Set targets as nominated by Council from time to time.
- e) Monitor and record performance measures.
- f) Measure levels of service and community satisfaction.
- g) Provide services to meet the requirements of the community and legislative requirements.
- h) Provide the community with information and feedback on solid waste services.

### 21.2 CURRENT LEVEL OF SERVICE

#### Solid Waste Services

To minimise waste disposed of to landfill and maximise materials diverted, Council provides solid waste services including:

- information on waste minimisation including waste reduction and Target Sustainability.
- reuse of materials through the Crows Nest and Waste Exchange.
- separation of reusable materials, hazardous waste, recyclables, organic waste and scrap at transfer stations.
- kerbside collection of recyclables and organic waste.

#### Waste Minimisation Officers

The Council employs three staff in full time and part time roles equivalent to 2.75 full time equivalent positions. The equivalent of 1.75 FTE is dedicated to the waste minimisation activity whereby staff provide information and instructions on what to do, facilitation of waste minimisation resources and varying levels of enforcement. This encompasses the interface with kerbside collections, transfer stations, Landfill Access Permit holders and community events, along with waste minimisation programmes for schools, businesses and community groups.

#### Information

The Council provides a range of information to the community, including:

- Weekly Council notice board for bin collection days, waste tips and periodic articles.
- South Canterbury Herald and The Courier community newspapers for monthly articles including an editorial and an advertisement.
- Timaru Herald and The Geraldine News for occasional articles.
- Classic Hits and Port FM for radio advertisements and “Eco-info”- Council’s regular message bulletin.
- Council website for a range of specific information on facilities, services and general waste information.
- Brochures, pamphlets and hand-out information.
- Information included with letters to residents.

#### Services

The levels of service for the different activities is shown in the respective sections.

## **21.3 POLICIES AND TARGETS**

### **Zero Waste**

Council adopted a goal of Zero Waste in 1999. Council is currently achieving 54% diversion of waste from landfill. It is the intention of Council to maintain the current level of waste minimisation.

Council supports the concept of working towards Zero Waste as a long term goal, as this not achievable in the term of this plan.

Council has set targets for the LTP performance measures with the aim of increasing efficiency for existing waste minimisation activity.

## **21.4 INFORMATION AND AUDITS**

### **Benchmark values and trends**

Council measures and records the tonnes of waste being collected, reused, recycled, recovered, treated and disposed of from the weighbridge at the Redruth landfill to measure the overall effectiveness of waste minimisation activities. It is more difficult to determine the quantities being reduced as this information is usually retained in private premises, therefore, this parameter will not be measured.

Council is considering benchmark values measures against historic values already achieved. There is currently no formal national solid waste benchmarking process for the Council to compare itself against the performance of similar sized authorities.

## **RECYCLE**

- **All paper & cardboard**
- **Clean plastic containers**
- **Steel, tin & aluminium food & drink cans**
- **Glass bottles & jars**

## **COMPOST**

- **Food & garden waste**
- **Handytowels & tissues**

## **WASTE**

- **Plastic bags & wrap**
- **Lolly wrappers & chip packets**

**Table 75: Benchmark Values for Kerbside Collections – Average Weight per Bin**

Year	Rubbish	Recycle	Organic
2006/07	10.46	11.13	19.19
2007/08	10.89	11.98	18.86
2008/09	11.13	11.78	19.37
2009/10	10.89	11.43	19.60
2010/11	11.56	11.64	20.32
<b>Average kg/bin</b>	<b>10.99</b>	<b>11.59</b>	<b>19.47</b>

## 21.5 AUDITS

The solid waste unit undertakes a variety of audits at regular intervals to assess waste composition for the purposes of improving information and services.

## 21.6 DEMAND & GROWTH

### Information Demand

There is a steady demand from the community for talks and tours. Since 1997, over 21,000 people have attended talks with over 3,000 people going on tours of the Redruth facilities since 2007. Staff has been proactive in promoting waste minimisation for 51 businesses assisted during 2009/10 and 56 in 2010/11.

**Table 76: Summary of Public Information**

Year	Talks	People at Talks	Facility Tours	People on Tours	Business Visits	Events	Events Attendees
06/07	27	2,805	23	244			
07/08	49	1,725	18	952			
08/09	25	1,415	26	1,069			
09/10	54	2,306	32	842	51	16	21,900
10/11	31	644	26	628	56	24	48,975

## 21.7 ISSUES

### Targets

The previous target of zero waste by 2015 and 80% of waste diverted by 2010 have not been achieved. To achieve 80% of waste diversion will require further expenditure. Council needs to assess the priorities of the community and affordability to progress further waste minimisation. Council and the community need to consider what further waste minimisations options there are and determine what to do. While it would be preferable to confirm any future initiatives as part of this plan, in reality there could be a range of reasons for some initiative not to become viable until some time in the future. There is scope to consider individual options in the future through the Annual Plan process and update the plan at that time instead of waiting every six years to review the WMMP as required by the WMA.

## 21.8 STATUS

Through the contract with TPI, Council is committed to continuing with the status quo for the solid waste services.

Council will consider new methods, systems, innovation and new technologies to improve waste minimisation on an on-going basis. Implementation of any changes will be subject to consultation and approval through the Council Annual Plan process.

## 21.9 DATA AND RECORDS

Council will record information and data for the various activities to measure effectiveness.

## 21.10 PERFORMANCE MEASUREMENT

Performance measures for the WMMP are differentiated into two categories being:

- a) Performance measures for inclusion into the Council Long Term Plan.
- b) Operational performance measures for the operational aspects of the WMMP.

## 21.11 FURTHER OPTIONS

Further options for improving waste minimisation are listed at the end of each chapter and summarised in the Executive Summary in Section 3.8 (p10) and in the options summary in Appendix 2.



*The Escrap recycling was set up at Redruth in 2011 to collect TVs, computer screens and other electronic equipment. Only TVs and computer screens incur a charge due to the high cost of processing, but all other items can be recycled at no cost.*

## 22 Efficient Services

### 22.1 METHODS

- Contract services where nominated by Council.
- Provide cost/benefit analysis for proposed new services.
- Foster on-going improvement and innovation.
- Measure contamination levels from waste minimisation activities.
- Provide the community with information and feedback on solid waste services.

### 22.2 CURRENT LEVEL OF SERVICE

#### Procurement

The Council through an open tender process has contracted the following services to Transpacific Industries until 2021 for the:

- kerbside collection,
- transfer station operation and transport of waste to landfill,
- landfill operation,
- compost operation,
- recycling sorting and marketing of recyclables from the kerbside collection and transfer stations.

Council has contracted the Sustainable South Canterbury Trust through a negotiated contract until 2019 to provide for the operation of the:

- Crows Nest,
- the drop-off area at the Redruth transfer station and;
- the kerbside collection of reusable items.

### 22.3 POLICIES

Council will determine other procurement methods appropriate for capital development and other operating services which may include but is not limited to open tender, closed tender, negotiated tender, cost reimbursement, lump sum and hourly rate.

Council will analyse costs and benefits of proposed services.

### 22.4 INFORMATION AND AUDITS

#### Kerbside Collection

The efficiency of the collection service can be measured by the number of people placing bins out for collection and by the number of bins emptied and missed.

**Table 77: Kerbside Presentation Rates**

Year	Rubbish (fortnightly) %	Organic (weekly) %	Recycle (fortnightly) %
2006/07	92.4	65.3	78.9
2007/08	86.8	69.8	74.9
2008/09	79.9	73.8	72.4
2009/10	84.2	62.3	74.5
2010/11	86.6	60.8	75.1

**Table 78: Bins Emptied**

Kerbside bins emptied	2009/10	2010/11
Rubbish bins	417,110	430,643
Recycle bins	386,858	389,661
Organic bins	595,012	597,678
<b>Total</b>	<b>1,398,980</b>	<b>1,417,982</b>

**Table 79: Missed Bins**

Year	Target	Results	Measured by
2009/10	520 or less missed kerbside bins per year.	537 bins missed	Service request system
2010/11	520 or less missed kerbside bins per year.	464 bins missed	

464 bins is less than 2 bins per collection day or 0.03% of the 1,417,982 bins emptied, which means that 99.96% of bins were collected in 2010/11. The contractor will return to collect a missed bin as part of the service, unless the bin was not out for collection on time.

### Recycling

The efficiency of recycling is measured by the quantity of reject materials landfilled. The following reject material is disposed of to the landfill from the recycling operations. This material includes waste that is disposed of with recyclables and process loss of materials from the Materials Recovery Facility.

**Table 80: Recycling Reject Materials**

Year	Tonnes	% of gross tonnes
2007/08	1,429	26
2008/09	1,062	14
2009/10	1,545	28
2010/11	1,489	24

An audit of the composition of the reject materials shows that the main categories are paper, plastic and glass.

### Organics

The efficiency of the compost processing is measured by the quantity of reject materials landfilled. The following reject material is disposed of to landfill from the composting operations. This material primarily includes waste that is disposed of via the kerbside collection in the wheelie bins.

**Table 81: Compost Reject Materials**

Year	Tonnes	% of gross tonnes
2007/08	528	8
2008/09	443	16
2009/10	304	3
2010/11	144	1

## 22.5 DEMAND & GROWTH

In time it is likely that more materials will become viable to recycle. This should improve efficiency and reduce waste disposal. There is ample capacity at the MRF and with the kerbside collection and transfer stations. The compost facility has a threshold of 16,000 tonnes.

## 22.6 ISSUES

### Recycling

The public throw out a range of plastic waste materials that have recycling logos on them but are currently not able to be recycled. Development of markets and cost effective sorting and processing systems are required to improve the recycling rate.

There is a cost premium to recycle all the material presented at the MRF and it is currently not cost effective to do so.

The cyclic nature of recycle commodity prices will impact upon revenues for recyclable materials. The initial design of the MRF caused some concern with the effectiveness of sorting glass. TPI have modified the sorting platform and sort 70% of the glass by hand directly into containers which go to Fulton Hogan for crushing.

### **Changes to the Level of Service**

While it is desirable to continue improving waste minimisation, consideration of the costs and the benefits needs to be undertaken to assess the overall viability of further developments. In some cases, for the time being, it is cheaper to landfill the materials.

## **22.7 STATUS**

Council will encourage contractor TPI to consider modifications to the MRF to improve efficiency.

## **22.8 DATA AND RECORDS**

Data that will be recorded to measure efficiency will include but is not limited to the following:

- a) The number of wheelie bins emptied and missed.
- b) The presentation rate of bins placed at the kerbside for emptying.
- c) Average kilometres per lift.
- d) Tonnes of materials processed and reject materials landfilled.



*A TPI driver empties a green bin as part of the efficient 3-2-1-ZERO kerbside collection system. A second truck will empty the red bin on the same day.*



## 22.9 PERFORMANCE MEASUREMENT

Table 82: Long Term Plan Performance Measures

No.	Year	Measure	Target
1.	<b>Regular kerbside collection services to enable separation of waste for recycling and compost</b>		
	2012/13	Number of missed bins at kerbside	2012/13 540 bins per annum. Increasing at 8 bins per year due to increased numbers of bins.
2.	<b>Waste minimisation kerbside services are adequately provided</b>		
	2012/13	Overall and user satisfaction with waste minimisation services	User satisfaction-80% Overall satisfaction-80%

*Gross tonnes and levels of contamination are recorded in the performance measures for the MRF and compost facility respectively.*

### Operational Performance Measures

- a) Record the presentation rate of bins.
- b) Record the average kilometres per lift.

## 23 Progress Sustainable Concepts

### 23.1 METHODS

#### Economic

- a) Set solid waste activity budget for the community, taking into consideration costs over variable terms.
- b) Utilise economic tools to encourage waste minimisation.
- c) Achieve efficient solid waste services.

#### Environment

- d) Achieve objective 2 of the WMMP.

#### Social

- e) Achieve objective 1 of the WMMP.
- f) Provide levels of service that the majority of the community is satisfied with.
- g) Promote and facilitate utilisation of local people and resources for solid waste services.
- h) Promote and facilitate further opportunity for potential job creation and industry development.

#### Cultural

- i) Liaise with local tangata whenua and iwi to identify concerns, issues and opportunities with regard to solid waste.

### 23.2 CURRENT LEVEL OF SERVICE

#### Economic

Council provides a budget for solid waste activity and sets rates and fees to pay for the costs for solid waste activity. The community have an opportunity to consider and provide input into the level of service and costs through the special consultative procedure under the s83 of

the Local Government Act for this WMMP, the Council's Long Term Plan and Annual Plans. Council has engaged contractor TPI to provide solid waste services for a 15 year contract term to enable lower annual costs for the services as capital costs have been amortised over the 15 year period.

Council will set differential rates, charges and fees from time to time to incentivise waste minimisation and discourage disposal.

Through measuring the quantities for recycling and composting, Council envisages to further reduce waste disposed of and improve waste minimisation.

#### Environment

Council provides for the environmentally safe collection and disposal of residual rubbish to landfill.

Council holds resource consents for the operation of its different solid waste facilities. Council ensures it meets the conditions of the consents to protect the local environment.

#### Health and Safety

Council has a comprehensive Health and Safety system in place. Contractors engaged by Council are required to have Health and Safety plans in place for work.

The ultimate goal is to ensure no harm comes to the public or solid waste workers as part of solid waste activities.

### Community Satisfaction

It is not practical to satisfy the requirements of everybody in the community, therefore a level of acceptance by the majority is the method to measure overall social acceptance of the services. This will be measured by community surveys every three years.

### Local People and Resources

The following number of people are engaged in providing solid waste services for the Council.

Description	Full Time Equivalent
<b>Timaru District Council</b>	
Solid Waste Unit	2.75
Transfer Station Cashiers	2.5
<b>Transpacific</b>	
TPI Kerbside	11
TPI Recycle	7
TPI Compost	3
TPI Landfill	2
TPI Transfer Station	6.25
The Crow's Nest	4

In addition, staff at Full Circle process paper and card from the MRF under a sub-contract and Timaru Metal Recyclers handle scrap materials under contract to Council.

### Cultural

Through the special consultative procedure, Council liaises with the local iwi and tangata whenua.

Council staff directly consult and liaise with Maori where decisions involve and are relevant to Maori. Council's senior management team endeavours to meet with local Maori on a regular basis to maintain working relationships.

Internally, Council has built a step into its report writing and decision making framework, where the impact of a decision must be specifically assessed regarding Maori related issues and direct consultation is undertaken with Maori if the decision is relevant to Maori.

While there are other nationalities living in the Timaru District, Council has no formal protocols for liaising with them.

### 23.3 POLICIES

Solid waste unit policy is to have recycled content included in the manufacture of the bins as a specification.

Councillors are provided with iPads to reduce the printing of paper.

### 23.4 INFORMATION

Council has developed a procurement policy and also a sustainability policy.

Council may implement the Sustainable Living Programme which offers opportunities to educate the public about a number of aspects of sustainable lifestyle which tie in with council policy, namely, waste, transport, water conservation, civil defence, etc.

### **23.5 DEMAND & GROWTH**

There is a greater awareness about sustainability and Council may need to further improve upon the level of information and reporting in the future, especially with the introduction of the Emissions Trading Scheme for landfills from 2013.

### **23.6 ISSUES**

#### **ETS**

Council will have to pay carbon obligations under the Emissions Trading Scheme from 2013. Council will need to consider options to reduce payment of the carbon obligations through reducing waste disposed of to landfill utilising cost/benefit analysis.

#### **Waste Levy**

Council currently pays \$10 (+GST) per tonne of waste landfilled as a levy to the Ministry for the Environment. There is no guarantee that this will remain at \$10 and this levy could rise in the future.

### **23.7 STATUS**

Council has to provide reasons in the Annual Plan and Report for any significant departure from the budgets set in the LTP and Annual Plan.

Council records waste data monthly.

Resource consent conditions are met by completing tasks scheduled in the Hansen Resource Consent database.

Council or contractor staff respond immediately to customer complaints or health and safety incident reports.

### **23.8 DATA AND RECORDS**

The following data will be recorded to measure overall sustainability for solid waste activities:

- Monthly expenditure and revenue,
- Waste quantities,
- Resource consent monitoring and reports,
- Staff engaged in solid waste activities,
- Health and safety injuries,
- Customer complaints and satisfaction.

## 23.9 PERFORMANCE MEASUREMENT

The main indicators for this are:

**Table 83: Monthly Budgets**

<b>Economic</b>	Council sets long term 10 year budgets in the Long Term Plan (LTP) and refines these every year with the Annual Plan. Council undertakes budget monitoring monthly.
<b>Environment</b>	The main indicators for the environment are: a) the quantity of waste diverted from the landfill, b) the quantity of waste landfilled which will be used to measure the Council ETS obligation and waste levy, and; c) compliance with resource consent conditions.
<b>Social</b>	The main indicators for this are: a) the number of people employed full time (FTE), b) number of work and site injuries, c) customer complaints, d) customer satisfaction- every 3 years, e) Crow's Nest customers.
<b>Cultural</b>	Council staff will undertake annual liaison with the local iwi to discuss any concerns with regard to solid waste activities.

## 23.10 FURTHER OPTIONS

**Table 84: Sustainability Further Options**

Item	Description	Explanation	Budget	Time	Status
1	Consider improved sustainability reporting for solid waste activities to enable data to be gathered and collated to benchmark future initiatives against.	Provides benchmarking for activities.	Internal	2016/17	Recommended

## 24 Contribution Towards Sustainable Development

As the local economy grows, it is important that the effects from this growth do not impact on local and global resources and environments.

Through reuse, recycling and recovery of materials, the need for new resources is reduced. Composting organic waste reduces greenhouse gas generation compared to landfilling organic waste. These management options, overall, have less impact on the environment.

Ultimately, to produce less waste in the first place for reuse, recycling, recovery and disposal is a more idealistic but longer term objective. Council employs staff to inform and educate the community about this objective.

Reducing New Zealand's waste is key to sustainable development and the purpose of the Waste Minimisation Act is to encourage waste minimisation and a decrease in waste disposal in order to:

- a) protect the environment from harm; and
- b) provide environmental, social, economic, and cultural benefits.

Council is proactively working in regard to the NZ Waste Strategy Targets and the requirements of the Waste Minimisation Act to ensure a sustainable future is achieved.

### 24.1 CONTRIBUTION TO THE FOUR WELL-BEINGS

#### Social

Consultation on solid waste issues by Council in 1999 returned two common statements from people:

- “We cannot go on the way we are”,
- “We need to do something.”

By developing Council's first Solid Waste Plan in 2003 and implementing the three bin system, composting and recycling facilities in 2006, Council has introduced a way to address the above two statements.

The community now maintains a good system to minimise waste to landfill which helps address the social conscience of “doing the right thing”.

The practice of separating waste at home now flows into work place environments and public events where people want to continue their waste ethic practised at home.

The concept of the Waste Exchange service provides an opportunity for people to network in the community reusing waste and reducing waste to landfill.

Council provides information and education resources for the community with staff visiting residential and business premises to assist people. Tours of facilities are provided by Council staff who also undertake talks and demonstrate sustainable concepts.

## Economic

The initial main reason for diverting waste from Redruth Landfill for Council is to extend the life of the landfill. Once Redruth landfill is full, it is very unlikely that another will be developed in the Timaru District. Alternative landfills would be either at Kate Valley in North Canterbury or in the Otago area, or even further south at King's Bend Landfill in Winton. The cost of disposal combined with transport costs may increase or, surprisingly, decrease dependant on the gate charges, the distance and cost to transport.

Long term, there are significant economic benefits to the Timaru District from diverting waste from landfill for the above reasons.

In addition, the introduction of the waste levy under the Waste Minimisation Act has added a further cost to disposal. It likely that the levy will be increased in time from the initial \$10+GST per tonne of waste disposed of to a higher fee which will provide even more incentive to divert waste.

The introduction of the three bin collection, composting and recycling services have created additional employment for the Timaru District.

The development of compost markets and revenues from the sale of recyclable materials helps offset the costs of waste diversion.

The Crow's Nest provides employment and offers low price reused goods. *(Refer Reuse – Current Level of Service, p62)*

## Environment

The reuse, recycling and recovery of waste has many benefits for the environment.

Recycling offers considerable scope to reduce greenhouse emissions by returning materials into the production cycle. Not only does this reduce virgin inputs, but recycled material often requires less energy to transform the raw material it is replacing.

While these actual processing benefits may not occur in the Timaru District, the savings are attributed to an overall improvement globally.

The Australian Council of Recyclers ([www.acor.org.au](http://www.acor.org.au)) undertook an environmental study released in July 2008 for a typical 240 litre recycle bin.

The resulting analysis showed that on average every bin placed at the kerbside for recycling resulted in a saving of 19.7kg CO<sub>2</sub>e.

For the 2007/08 financial year there were 19,082 recycle bins in circulation. On average 77% of bins are placed at the kerbside each fortnight meaning 382,000 bins are placed out for recycling annually equating to approximately 7,253 tonnes of CO<sub>2</sub>e saving.

Furthermore, a total life cycle analysis which includes energy, water, resource conservation and other impacts/benefits could be considered.

During 2008, Council engaged consultants to undertake a landfill gas emission survey at the Redruth site. Overall, there is little to no landfill gas being discharged to the atmosphere. Some minor discharge was detected from two vents that have not been capped. These are to be capped and Council is considering options to mitigate

any minor amounts of gas that may be generated. (Refer to Disposal – Issues – Landfill Gas for detail.)

The low amounts of landfill gas measured are due to the shallow depth of the landfill and the removal of the organic waste stream, which is a main cause of landfill gas creation.

### **Cultural**

Iwi, hapu and whanau want to be sure that waste is disposed of appropriately, in harmony with their values, and without damaging the environment that sustains tangata whenua.

## **24.2 SIGNIFICANT NEGATIVE EFFECTS**

There is a range of potential negative effects from Solid Waste activities. Through proper operational and environmental management these effects may be avoided, reduced, mitigated or remedied.

An environmental management system is being developed for the range of activities and an annual report will be produced for the various activities and sites.

### **Social**

There is potential for odour, dust, litter, vermin and noise from the various facilities to impact adversely on neighbours. Implementing the various site operational management plans and monitoring site activities will mitigate these effects.

The introduction of the three bin collection service impacts on all residences and businesses that receive the service. There is a requirement for people to sort their waste appropriately into the

respective bins. For most people now, this is “second nature”, however, for a minority, there is an ongoing requirement of information, education and enforcement from Council and the Council’s Contractor to ensure that they sort and separate their waste appropriately.

### **Economic**

The cost of solid waste management services has increased from 2006. The amount of increased fees and costs is unsatisfactory for some people.

The introduction of a \$10 +GST per tonne levy for waste disposed of to landfill under the Waste Minimisation Act will add further cost, even though 50% of the levy collected nationally is returned to Local Authorities. The returned levy funds are to be allocated to waste minimisation activities only.

Returns for recyclable commodities are subject to cyclic pricing and global market effects. Along with compost markets, development of local solutions to avoid market fluctuations is an objective for Council and the Council’s Contractor to help maximise revenue streams.

### **Environmental**

There is the potential for the following significant adverse effects from the various sites:

- Contamination of surface and groundwater,
- Odour,
- Dust,
- Vermin,
- Litter,
- Fire,



- Emergencies involving hazardous waste,
- Health effects for site operators,
- Creation of contaminated land with limited long term utilisation.

The issue of significant effects is addressed by the issuing of resource consents for the various activities.

Redruth Landfill is designed and operated to industry standards and resource consent conditions to reduce, minimise or mitigate any adverse effects.

Council and Council contractors undertake periodic monitoring of the Redruth site and the other main closed landfills at Temuka, Pareora, Pleasant Point, Geraldine and Peel Forest. To date, there have been no adverse effects that will compromise resource consent conditions. An annual monitoring report is prepared for Environment Canterbury. Monitoring is not being undertaken at other closed landfill sites due to their small size and potentially very minor effects.

The waste of natural resources to landfill helps has a minute impact on a global scale. However, it is the cumulative effect of every minor impact that contributes to global impacts.

The removal of organic waste from landfill significantly reduces greenhouse gas production from Redruth landfill.

### Cultural

At this time it is not envisaged that there are any significant negative effects on the cultural wellbeing of the community.



*Gardening and food waste from the 3-2-1-ZERO kerbside collection green bins is processed into high quality compost. 20 and 40 litre bags are available at all transfer stations. All compost sold meets the New Zealand Composting Standard.*

## 25 Monitoring and Reporting Progress

The WMMP will be monitored and progress reported through the LTP, annual report to Council, annual report to Environment Canterbury and the contractor's monthly report and annual performance measures.

### 25.1 WMA REQUIREMENTS

The Waste Management Act (s86) requires a territorial authority to keep, and provide to the Secretary each year, records and information about the territorial authority's—

- (i) spending of levy money; and
- (ii) performance in achieving waste minimisation with the services, facilities, and activities provided or funded in accordance with its waste management and minimisation plan; and
- (iii) performance as measured against any performance standards set by the Minister under s49.

Records are kept by the Solid Waste Unit for tonnages declared and waste levy spending. Financial records are maintained by Corporate Services.

### Reporting

Council will provide in its Annual Report an overview of waste management and minimisation activities.

In addition, Council will produce 6 and 9 monthly progress reports on solid waste LTP performance measures as part of the annual plan reporting process.

There are also operational performance measures for activities in the WMMP which will be measured. Both LTP performance measures and operational performance measures are summarised in the following tables.



*The installation of weighbridges at 3 out of 4 transfer stations has improved recording of data and established more parity in fees paid based on weight.*

**Table 85: Long Term Plan Performance Measures**

The WMMP includes the following levels of service which will be reported against in the Council's annual plan.

No.	Year	Measure	Target
<b>1</b>	<b>Regular kerbside collection services to enable separation of waste for recycling and compost</b>		
	2012/13	Number of missed bins at kerbside	2012/13: 540 bins missed. Increasing at 8 bins per year due to increased numbers of bins.
<b>2</b>	<b>Solid waste is diverted from landfill via composting facility</b>		
	2012/13	Organic tonnages diverted. Gross tonnes processed at the composting facility.	2012/13: 14,500 tonnes. Increasing at 400 tonnes per year.
<b>3</b>	<b>Solid waste is diverted from landfill via Materials Recovery Facility</b>		
		Recycling tonnages diverted. Gross tonnes processed at the MRF.	2012/13: 5,500 tonnes. Increasing at 100 tonnes per year.
<b>4</b>	<b>Solid waste is diverted from landfill via reuse and other recycling</b>		
	2012/13	Tonnages diverted from reuse shop and transfer stations directly. Gross tonnes diverted	2012/13: 386 tonnes. Increasing at 1 tonne per year.
<b>5</b>	<b>Waste minimisation facilities are adequately provided</b>		
	2012/13	Overall and user satisfaction with waste minimisation services and hours	Overall satisfaction-75%. User satisfaction-80%.
<b>6</b>	<b>No adverse effects on the environment or human health from the operation of solid waste facilities</b>		
	2012/13	Compliance with resource consent conditions* *(other than for minor breaches)	Full compliance with resource consent conditions.*
<b>7</b>	<b>Public information and education ensures waste is sorted appropriately</b>		
	2012/13	Contamination levels are recorded for the MRF.	2012/13: 25% of gross tonnes. Decreasing at 1% per year.
		Contamination levels are recorded for the composting facility.	2012/13: 1% of gross tonnes. Decreasing at 0.1% per year.

No.	Year	Measure	Target
8	<b>Public information and education promotes waste minimisation</b>		
	2012/13	Opportunities exist for the public to learn about waste minimisation: <ul style="list-style-type: none"> <li>• Number of talks</li> <li>• Number of tours</li> <li>• Numbers of business assistance</li> <li>• Number of zero waste events</li> </ul>	40 26 52 25

## Operational Performance Measures Summary

**Table 86: Kerbside Collection**

Operational Indicator	Current Performance 2010/11	Target 2012/13 – 2018/19	Measured (This data is derived from)
Recycle kg/household	11.64	11.60	Tonnes from weighbridge (DM#598041), Number of bins emptied by TPI Contract 1635 Annual Performance Report. Results Waste Collection data (DM#556699)
Organics kg/household	20.32	19.50	
Rubbish kg/household	11.56	11.00	

**Table 87: Private Collection**

Operational Indicator	Current Performance 2010/11	Target 2012/13 – 2018/19	Measured (This data is derived from)
Commercial tonnes	22,430 tonnes	Reduce at 500 tonnes per year	Tonnes from weighbridge. (DM#598041)

**Table 88: Compliance with Operational Requirements for Site Management**

This operational indicator covers the transfer stations, recycling facility, composting facility and landfill, and includes the handling of hazardous waste.

**Table 89: Operational Performance Measures**

Operational Indicator	Current Performance 2010/11	Target 2012/13 – 2018/19	Measured (This data is derived from)
Compliance with operational requirements for site management	100% compliance	100% compliance	Contractor's monthly site inspection checklists Contractor's monthly report SWMO's site inspections

**Table 90: Reuse**

Operational Indicator	Current Performance 2010/11	Target 2012/13 – 2018/19	Measured (This data is derived from)
Compliance with operational requirements for site management	compliant	100% compliance	Crow's Nest manager's monthly report SWMO's monthly site inspections report SSCT meeting minutes
Number of paying Crow's Nest customers	16,719	Increase 500 paying customers per year	SSCT annual report

**Table 91: Recycling**

Operational Indicator	Current Performance 2010/11	Target 2012/13 – 2018/19	Measured (This data is derived from)
Nett tonnes			Tonnes from weighbridge (DM#598041), Contract 1635 Annual Performance Report.

**Table 92: Recovery**

Operational Indicator	Current Performance 2010/11	Target 2012/13 – 2018/19	Measured (This data is derived from)
Nett tonnes of compost			Tonnes from weighbridge (DM#598041), Contract 1635 Annual Performance Report.
Weight of waste oil	10 tonnes	10 tonnes	Tonnes from weighbridge (DM#598041),

**Table 93: Treatment**

Operational Indicator	Current Performance 2010/11	Target 2012/13 – 2018/19	Measured (This data is derived from)
Measure tonnage of hazardous waste retrieved and managed	compliant	100% compliance	Tonnes from weighbridge (DM#598041) Hazwaste record (DM#728082)

**Table 94: Disposal**

Operational Indicator	Current Performance 2010/11	Target 2012/13 – 2018/19	Measured (This data is derived from)
Measure annual tonnage of waste to landfill			Tonnes from weighbridge (DM#598041)
Measure annual tonnage of cleanfill utilisation			Tonnes from weighbridge (DM#598041)
Measure the composition of waste disposed of to landfill every 5 years	2010 audit	Next audit 2015	Consultant's SWAP report

**Table 95: Public Health and Safety**

Operational Indicator	Current Performance 2010/11	Target 2012/13 – 2018/19	Measured (This data is derived from)
Contractor's to record health and safety incidents	11.64	11.60	Contractor's monthly report

**Table 96: Efficient Services**

Operational Indicator	Current Performance 2010/11		Target 2012/13 – 2018/19		Measured (This data is derived from)
Record the presentation rate of bins	Rubbish	86%	Rubbish	85%	Contractor's monthly report <i>Contract 1635 Annual Performance Report.</i>
	Organics	66.5%	Organics	67%	
	Recycle	75%	Recycle	76%	
Record the average kilometres per lift	Rubbish	0.13km	Rubbish	0.14km	Contractor's monthly report <i>Contract 1635 Annual Performance Report.</i>
	Organics	0.17km	Organics	0.16km	
	Recycle	0.15km	Recycle	0.13km	
	CBD	0.34km	CBD	0.33km	
	Stacker	0.41km	Stacker	0.35km	

## 26 Assets

### 26.1 SUMMARY OF ASSETS

Table 97: Summary of Assets

Asset	Current Condition	Ownership	Estimated Useful Life (including underlying assumptions)
Transfer Containers	Poor-Good	TDC	13 Containers, 1 year to 8 years
Wheelie Bins	Very Good	TDC	12 years to 2021. 1 July 2011: 58,399 Bins in Service
Redruth T/S - Structure	Good	TDC	Varies for different components, 10- 100 years
Redruth T/S - Compactor	Very Good	TDC	10-20 years
Redruth T/S - Materials Recovery Facility	Very Good	TDC	50 years
Redruth Site – New Landfill (cells 3.1-3.3)	Very Good	TDC	Up to 40 years
Redruth Site - Compost Site	Poor-Very Good	TDC	Asphalt surfacing redone in 2010. Drainage system interceptor installed. Compost pads showing signs of slumping due to building on old landfill - may need remediation. Other fixed civil assets are very good, 25 years
Redruth Site – Buildings	Very Good	TDC	50 years
Redruth Site – Roading	Poor-Good	TDC	50 years
Temuka T/S - Structure	Good	TDC	Varies for different components, 10-100 years
Temuka T/S – Compactor	Good	TDC	Varies for different components, 10-100 years
Temuka T/S – Roading	Very Good	TDC	100 years
Temuka T/S Buildings	Very Good	TDC	50 years
Geraldine T/S – Structure	Good	TDC	Varies for different components, 10-100 years
Geraldine T/S – Compactor	Good	TDC	Varies for different components, 10-100 years
Geraldine T/S - Roading	Very Good	TDC	100 years
Geraldine T/S – Buildings	Very Good	TDC	50 years



Asset	Current Condition	Ownership	Estimated Useful Life (including underlying assumptions)
Pleasant Point TS – Structure	Good	TDC	Varies for different components, 10-100 years
“Crows Nest”	Good	TDC	50 Years, some subsidence under east side of building.
Materials Recovery Facility	Very Good	TDC	50 Years
Redruth Staff Amenities and Office	Very Good	TDC	50 Years

## 26.2 ASSET DESCRIPTION AND PERFORMANCE

To date, there has been no corporate requirement for the Solid Waste Unit to have a formal Asset Management Plan. The processes for asset management, renewal and acquisitions have, in some cases, arisen because of failure and, in other cases, have already been allowed for. There has been no record of the decision process. Instead, decisions have been based upon input from knowledge and expertise by the District Services Manager, Solid Waste Manager and other key contractors, stakeholders and experts.

The Solid Waste Unit compiled a database of assets in 2010 and most of the assets have been added into the GIS database. The GIS unit is currently working on compiling a database specifically for the solid waste unit. It does not have a performance register. Further work is to be done to date assets and assign a life to them for financial purposes and to create an assets management plan.

Transfer containers and transfer compactors are monitored and maintained under a system care approach by the manufacturer Scarlett Engineering and Scarlett Hydraulics.

Kerbside wheelie bins are maintained and repaired as required by the Council's contractor TPI. Records are kept on Council's Customer Service Request system and in monthly service reports from the contractor.

Monitoring of other assets is undertaken both by Council and TPI staff.

There have been issues with the performance of drainage pumps in recent years. The problem pumps were replaced in 2007/08 and

regular inspection is being undertaken to check performance. Modifications to the drainage system are being undertaken to reduce infiltration of solid debris and stormwater into the leachate system. A pump maintenance schedule was established in 2010 and allocates duties and responsibilities.

The Solid Waste Unit is to draw up a table allocating responsibility for assets to parties.

## 26.3 ASSET VALUATIONS

The schedule of fixed assets for internal purposes as at 30 June 2011 is as follows:

**Table 98: Asset Valuations**

Valuation Category	2008(CV)	2011(Authority)
Acquisitions & Improvements	\$13,339,091	\$15,381,549
Revaluation	-\$880,916	-\$880,916
Total Cost	\$12,458,175	\$14,500,633
Provisional Depreciation	\$673,127	\$1,783,267
Current Book Value		\$12,717,366

The Solid Waste Unit is to review the asset valuations and collate into a more user friendly schedule. *(See Improving the Plan, section 30.4, p153.)*

Council will need to consider possible alternative collection systems from 2019 or retain the existing service and allow for an increase in bin replacement from 2018.

To fully replace the existing number of bins at the term of the contract in 2021 will be in the order of \$3.5 to \$3.8 million allowing for an

inflation rate of 2-3% on existing bin costs. Raw material costs may rise significantly in the years to come further increasing the cost.

Nearing the end of the contract term, it is likely that the number of bins to be replaced and repaired will increase. It will be necessary to track bin issues to plan for bin renewals and replacements as the contract nears its term in 2021. However, this number will be less than replacing all the bins at once.

## **26.4 MAINTENANCE PLAN**

There is no all inclusive maintenance plan for all solid waste activities.

Council needs to purchase sufficient new bins per annum to meet growth and repairs for kerbside bins. This is currently about 1% of the total bin numbers of 58,849 bins (June 2011). It is likely to increase towards the end of the contract term and afterwards if the existing bins remain in use.

Replacement costs have been stated as a flat rate in the LTP budget, but will be reviewed year by year.

## **26.5 STANDARDS AND SPECIFICATIONS**

As part of the operational contract with TPI, the contractor is required to regularly inspect and maintain all services to ensure facilities and systems remain operational and compliant with resource consent conditions at all times.

There are specific inspections and follow up actions required under the site operational management plans.

TPI are responsible for maintaining their assets to ensure that the level of services is not reduced, e.g. collection trucks, transfer station “hook truck”, composting system, screen and shredder, loaders, MRF plant.

The transfer station weighbridges are serviced and certified annually.

A maintenance plan for the compost, MRF and supporting office facilities constructed in 2006 is still to be developed. *(See Improving the Plan, section 30.4, p150.)*

**Table 99: Summary of Nominated Maintenance Costs**

Minor Roading	Operational Contract	Previously, no nominated amount. Undertaken as extra day works in the operational contract. From 2011/12, \$15,000 has been nominated and will be managed by LTU.
Landscaping	Operational Contract	\$77,000 pa. Subcontract managed by TPI.
Drainage	Operational Contract	Undertaken as extra day works in the operational contract.
Bins	Operational Contract	Undertaken as service requests in the operational contract, approximately \$15,000-\$18,000 pa.
Buildings	Solid Waste Unit	\$2,000 pa.
Transfer Containers	Solid Waste Unit	\$15,000 pa.

Council's contractor TPI undertakes regular inspections and meets to discuss operational performance on a monthly basis with Council.

### **Renewal Standards**

To date, any renewals have been installed to maintain existing levels of service.

Historically, minor renewals have been replaced from existing operational budgets. Allowances for planned renewals have been included in forward budgets.

As identified in section 4.4 (*see p17*) Council purchases kerbside bins annually.

There is no requirement to renew or replace any major components of the existing fixed assets during the term of this plan.

There are requirements to replace smaller items, for example drainage pumps, because of wear and tear.

## **26.6 RENEWAL AND REPLACEMENT PLAN**

### **Renewal Plan**

There is no all inclusive renewal and replacement plan for all solid waste activities. A plan needs to be developed (*see Improving the Plan, section 30.4, p150*).

## Summary of Future Renewal Costs

Table 100: Renewal Costs

Asset	Renewal Costs
Storm water Pumps	\$15,000 (2016/17)
Static Compactors-bins	\$25,000 (2012/13, 2014/15),
Static Compactors	\$20,000 (2015/16)
Drainage-leachate system repair	\$50,000 (2019/20)
Bins	\$48,500 p.a
Redruth Aftercare	\$90,000 p.a.
Redruth Leachate	\$15,000 (2011/12), \$145,000 (2015/16), \$15,000 (2017/18).
Office Equipment	\$10,000 (2013/14, 2017/18)
Roading	\$35,000 (2012/13) \$5,000 (2016/17, 2019/20)

## 26.7 CREATION / ACQUISITION / AUGMENTATION PLAN

### Selection Criteria

The creation of new assets will be driven by the need to provide additional infrastructure to ensure more waste is diverted from the landfill.

The criteria that should be used may include, but is not limited to the following:

- Costs, (Capital & Operating)
- Savings,
- Tonnes diverted from landfill,
- Revenue,
- Compliance with Regulations & Legislation,
- Achievement of Council & National targets,
- Satisfying Customer Values & Community Outcomes,

- Satisfying the 4 Well-Beings,
- Council Policy.

### Standards and Specifications

The standards and specifications required for new acquisitions will be dependant upon the final asset solution that is chosen.

For example, industrial organic waste can be composted and produced to a low standard and be used as landfill cover, however, this would accrue the ETS tax. Alternatively, depending upon testing, it may be suitable for resale and be compliant with the NZ compost standard. If not compliant, it may be suitable for forestry or landscaping applications.

The economics of solutions will also determine the standards and specifications. For recycling of the commercial waste stream, it may be more economic to group all plastics into one category of “mixed plastic” compared to separating plastic into the different plastic grades.

Further investigation is required for the specific solutions to determine standards and specifications for further assets.

## 26.8 SUMMARY OF POTENTIAL FUTURE ACQUISITIONS

The tables in section 28.5 (p135-146) identifies the capital expenditure that will be considered as part of the LTP and 2012/13 Budget.

## 26.9 DISPOSAL PLAN

### Forecast of Asset Disposal

It is not envisaged to dispose of any assets during the term of this plan.

### Cashflow From Asset Disposal

It is not envisaged to dispose of any assets during the term of this plan.



*A second weighbridge was added at the Redruth site in November 2010, so vehicles could pay pro rata by weight after weighing in and weighing out. This system encourages users to divert waste before they cross the weighbridge to increase resource recovery and reduce waste disposal costs.*

## 27 Work Programme and Financial Summary

### 27.1 HOW THE IMPLEMENTATION OF THE PLAN IS TO BE FUNDED

The plan will be funded according to Council's funding policy.

#### Policies

Waste minimisation activity is funded as follows:

- 0-10%, via a differentiated general rate for activity which is non-disposal related.
- 90-100%, via a differentiated targeted rate for the kerbside collection service and user fees and charges for disposal activity.

### 27.2 GRANTS AND ADVANCES OF MONIES

Council has the ability under the WMA (s47) to make grants to any person, organisation or group for the purposes of promoting waste management and minimisation, as long as this is authorised by the WMMP. If Council intends to provide any such grants, the terms and conditions for this must be explained in the WMMP (s43). The frame of reference for grants should also be noted in Part B, the Action Plan. There is no intention to provide for grants in the term of the 2012-22 LTP.

### 27.3 WASTE MINIMISATION LEVY FUNDING EXPENDITURE

The WMA requires that all waste levy funding received by a Territorial Authority (TA) be spent on waste minimisation activities in accordance with Council's WMMP. The plan must, therefore, state how these funds are to be spent. Waste levy funds can be spent on existing waste minimisation services, new services or a combination of both.

The funding can be used to provide grants, to support contract costs or as infrastructure capital.

Council has flexibility in the timing and manner in which waste levy funds are utilised. Funds can be pooled with other TAs, or pooled for several years to use for infrastructure development, as long as this use is provided for and explained in the WMMP.

Funding can be withheld by the Minister for the Environment if a council cannot demonstrate funding is being used for waste minimisation activities in accordance with its WMMP, or the council has not adopted a WMMP, or if the plan is not reviewed in accordance with the WMA requirements.

#### Use of Levy for Operational Expenditure

The following definitions are used to denote the activity.

- |             |   |
|-------------|---|
| New =       | an activity started after the implementation of the waste levy (from 1 July 2009) |
| Expansion = | a significant increase in levels of service.                                      |
| Existing =  | a service that was in place before the levy was implemented.                      |

The following tables, Tables 101 and 102, outline the waste levy spending programme for the next 10 years as programmed in the LTP budget.

**Table 101: Waste Levy Operational Spending – New and Expanded Activity**

Activity	Type	Category	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Escrap	New	Recycle	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Large goods pick up	New	Reuse	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Enviroschools	Expansion	Education	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Bin monitoring (salary)	Expansion	Recycle	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
RRP staffing	New	Recycle					35,000	35,000	35,000	35,000	35,000
<b>Total</b>			<b>35,000</b>	<b>35,000</b>	<b>35,000</b>	<b>35,000</b>	<b>70,000</b>	<b>70,000</b>	<b>70,000</b>	<b>70,000</b>	<b>70,000</b>

These costs are included in overall operational expenditure outlined in the following section 27.4 (p123).

**Table 102: Waste Levy Capital Expenditure – New Activity**

Activity	Type	Category	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Timber Report	New	Recycle	5,000								
Special Composting Report	New	Recover	5,000								
Public Place Recycling	New	Recycle	5,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000
Resource Recovery Park	New	Recycle			30,000	315,000					
<b>Total Capital</b>			<b>15,000</b>	<b>7,000</b>	<b>37,000</b>	<b>322,000</b>	<b>7,000</b>	<b>7,000</b>	<b>7,000</b>	<b>7,000</b>	<b>7,000</b>

See the financial summary and narrative tables for future renewals and future new works in section 27.5 (p133)



Table 103 summarises how the waste levy spending will be reported against estimated income.

**Table 103: Waste Levy Reporting Summary**

Activity	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Income (estimated)	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000
Operational – new and expanded	35,000	35,000	35,000	35,000	70,000	70,000	70,000	70,000	70,000
Operational – existing	80,000	88,000	58,000	35,000	0	0	0	0	0
Capital	15,000	7,000	37,000	60,000	60,000	60,000	60,000	60,000	60,000
<b>Total Waste Levy</b>	<b>130,000</b>	<b>130,000</b>	<b>130,000</b>	<b>130,000</b>	<b>130,000</b>	<b>130,000</b>	<b>130,000</b>	<b>130,000</b>	<b>130,000</b>

## 27.4 FINANCIAL STATEMENTS AND PROJECTION

### Summary Operating Expenditure 2012/13-2021/22

**Table 104: Summary of Operating Expenditure**

Service	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total Recycling Costs	114,000	112,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000
Hazardous Waste Programmes	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Community Awareness	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Total disposal	3,305,000	3,305,000	3,317,500	3,305,000	3,305,000	3,305,000	3,305,000	3,317,500	3,305,000	3,305,000
Fee collection	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000
Management costs	185,900	185,900	184,500	184,500	229,500	219,500	219,500	219,500	219,500	219,500
Collection costs	2,290,500	2,290,500	2,290,500	2,290,500	2,290,500	2,290,500	2,290,500	2,290,500	2,290,500	2,290,500
Emissions Trading Scheme	72,600	146,200	146,200	146,200	146,200	146,200	146,200	146,200	146,200	146,200
Corporate	353,400	353,000	350,600	349,600	345,100	344,200	343,500	342,200	341,000	340,900

## 27.5 CAPITAL WORK PROGRAMME/PROJECTS 2012-2022

### Delivery

The ongoing capital development of Redruth landfill is being scheduled by Canterbury Waste Services. A whole of life plan has been developed to enable appropriate planning.

### Issues

The timeline for the capital development of the landfill is affected by annual tonnes of waste. If these reduce, then the landfill life is extended and the capital expenditure is extended to suit. There is scope to raise the area that was landfilled from 1995-2005 with inert waste, to improve the final capping profile. Due to factors such as the ETS and NES for Air Quality this work will be undertaken with cleanfill, not waste. The design of the final surface layer for the area to be landfilled from 2008/09 onwards has been designed to maximise airspace with total capacity estimated to be about 900,000 tonnes.

The Solid Waste Plan 2003 has been reviewed and changes incorporated into Council's new Waste Management and Minimisation Plan (this document), to be completed before 1 July 2012. The waste assessment required prior to this was conducted in 2011/12. Consideration of achieving further waste minimisation will need to be addressed in the period to 2019.

### Summary

The majority of capital works relate to provision of services for enhancing the key solid waste asset, Redruth landfill. Some of the waste levy money is allocated to projects to ensure continuing progress with waste minimisation.



*Recent capital development at Redruth Landfill includes the design and build of cell 3.3, which started filling in mid 2010 and is expected to last 5 years at current rates of filling.*

**Table 105: Future Proposed Renewals and New Capital Works 2013-22 – Financial Summary**

Service	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Stage 3 development	50,000	180,000	1,350,000	0	0	220,000	0	0	70,000	1,330,000
Stage 2 development	0	25,000	0	200,000	0	25,000	0	25,000	0	25,000
Drainage	50,000	60,000	0	0	15,000	0	15,000	0	0	0
LFG	0	497,000	45,000	0	45,000	0	45,000	0	0	0
Roading	35,000	0	0	0	5,000	0	0	5,000	0	0
Transfer Stations	29,000	14,000	29,000	24,000	4,000	14,000	4,000	4,000	4,000	4,000
Compost site	20,000	250,000	240,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
W.O.L. plan	10,000	10,000	10,000	30,000	10,000	10,000	10,000	10,000	10,000	10,000
Landfill closure	73,400	73,400	73,400	73,400	73,400	73,400	73,400	73,400	73,400	73,400
Aftercare reserves	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000
New bins	48,500	48,500	48,500	48,500	48,500	48,500	48,500	48,500	48,500	48,500
Waste levy projects	15,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000
Resource Recovery Park	0	0	30,000	315,000	0	0	0	0	0	0

The narrative summaries for each area of capital expenditure are listed in the tables below.

**Table 106: Stage 3 Development**

Code	NEW/ RENEW	Year	Cost	Explanation	Source of Project	Category	Priority Assumptions	Project Probability
7430.712.401	New	2013	50,000	Completion of capping in SW corner	LOS6	ILS	High	Certain
7430.712.401	New	2014	180,000	Pre construction drainage of Stage 3.4 and design of Stage 3.4	LOS6	MAD	High	Certain
7430.712.401	New	2015	1,350,000	Construction of Stage 3.4	LOS6	MAD	High	Certain
		2016						
		2017						
7430.712.401	New	2018	220,000	Capping of part of Stage 3.3 and Stage 3.4, litter fence on top of new capping	LOS6	ILS	High	Certain
		2019						
		2020						
7430.712.401	New	2021	70,000	Extension of leachate recirculation, preconstruction drainage of Stage 3.5	LOS6	ILS	High	Certain
7430.712.401	New	2022	1,330,000	Construction of Stage 3.5	LOS6	MAD	High	Certain

Category: ILS = Improve Level of Service  
MAD = Meet Additional Demand  
RCA = Replace Current Assets

**Table 107: Stage 2 Development**

Code	NEW/ RENEW	Year	Cost	Explanation	Source of Project	Category	Priority Assumptions	Project Probability
		2013						
7430.712.401	New	2014	25,000	Construction of capping (see Note 2)	LOS6	ILS	High	Certain
		2015						
7430.712.401	New	2016	200,000	Construction of capping including importation of clay and topsoil (see Note 2)		ILS		
		2017						
7430.712.401	New	2018	25,000	Construction of capping (see Note 2)	LOS6	ILS	High	Certain
		2019						
7430.712.401	New	2020	25,000	Construction of capping (see Note 2)	LOS6	ILS	High	Certain
		2021						
7430.712.401	New	2022	25,000	Construction of capping (see Note 2)	LOS6	ILS	High	Certain

Category: ILS = Improve Level of Service  
MAD = Meet Additional Demand  
RCA = Replace Current Assets

**Table 108: Drainage**

Code	NEW/ RENEW	Year	Cost	Explanation	Source of Project	Category	Priority Assumptions	Project Probability
7430.712.401	New	2013	50,000	Leachate recirculation installation	LOS6	ILS	High	Certain
7430.712.401	New	2014	60,000	Upgrading of open drain on west side of landfill including wetland treatment, leachate recirculation extension	LOS6	ILS	High	Certain
		2015						
		2016						
7430.791.401	Renew	2017	15,000	Replacement of storm water pumps		RCA		
		2018						
7430.712.401	New	2019	15,000	Leachate recirculation extension	LOS6	ILS	High	Certain
		2020						
		2021						
		2022						

Category: ILS = Improve Level of Service  
MAD = Meet Additional Demand  
RCA = Replace Current Assets

**Table 109: LFG**

Code	NEW/ RENEW	Year	Cost	Explanation	Source of Project	Category	Priority Assumptions	Project Probability
		2013						
7430.722.401	New	2014	497,000	Primarily for flare station based on assumption that fully compliant flare is required and can be justified for ETS purposes	NES Air ETS	ILS	High	Probable
7430.722.401	New	2015	45,000	Gas wells and reticulation extension	LOS6	ILS	High	Certain
		2016						
7430.722.401	New	2017	45,000	Gas wells and reticulation extensions	LOS6	ILS		
		2018						
7430.722.401	New	2019	45,000	Gas wells and reticulation extensions	LOS6	ILS	High	Certain
		2020						
		2021						
		2022						

Category: ILS = Improve Level of Service  
MAD = Meet Additional Demand  
RCA = Replace Current Assets



**Table 110: Roading**

Code	NEW/ RENEW	Year	Cost	Explanation	Source of Project	Category	Priority Assumptions	Project Probability
7430.716.401	Renew	2013	35,000	Redruth site repair of sealed and unsealed surfaces, road markings and signage.		RCA	High	Certain
		2014						
		2015						
		2016						
7430.716.401	Renew	2017	5,000	Repair sealed area at transfer stations.		RCA	High	Certain
		2018						
		2019						
7430.716.401	Renew	2020	5,000	Repair sealed area at transfer stations.		RCA	High	Certain
		2021						
		2022						

Category: ILS = Improve Level of Service  
MAD = Meet Additional Demand  
RCA = Replace Current Assets

**Table 111: Transfer Station Renewals**

Code	NEW/ RENEW	Year	Cost	Explanation	Source of Project	Category	Priority Assumptions	Project Probability
7430.791.506	Renew	2013	29,000	Compactor container, MRF door motor	LOS3	RCA	High	Certain
7430.791.506	Renew	2014	14,000	Office equipment/furniture, MRF door motor	LOS5 LOS3	RCA	High	Certain
7430.791.506	Renew	2015	29,000	Compactor container, MRF door motor	LOS6 LOS3	RCA	High	Certain
7430.791.506	Renew	2016	24,000	Static compactor, MRF door motor	LOS6 LOS3	RCA	High	Certain
7430.791.506	Renew	2017	4,000	MRF door motor	LOS3	RCA	High	Possible
7430.791.506	Renew	2018	14,000	Office equipment/furniture, MRF door motor	LOS5 LOS3	RCA	High	Certain
7430.791.506	Renew	2019	4,000	MRF door motor	LOS3	RCA	High	Possible
7430.791.506	Renew	2020	4,000	MRF door motor	LOS3	RCA	High	Possible
7430.791.506	Renew	2021	4,000	MRF door motor	LOS3	RCA	High	Possible
7430.791.506	Renew	2022	4,000	MRF door motor	LOS3	RCA	High	Certain

Category: ILS = Improve Level of Service  
MAD = Meet Additional Demand  
RCA = Replace Current Assets

**Table 112: Compost Site**

Code	NEW/ RENEW	Year	Cost	Explanation	Source of Project	Category	Priority Assumptions	Project Probability
7430.730.401	New	2013	20,000	Creation of maturation areas	LOS2	ILS	Medium	Probable
7430.730.401	New	2014	250,000	Creation of maturation areas / New pads	LOS2	ILS	Medium / High	Probable / Certain
7430.730.401	New/Renew	2015	240,000	Creation of maturation areas / Renew pads	LOS2	MAD ILS	Medium / High	Probable / Certain
7430.730.401	New	2016	20,000	Creation of maturation areas	LOS2	ILS	Medium	Probable
7430.730.401	New	2017	20,000	Creation of maturation areas	LOS2	ILS	Medium	Probable
7430.730.401	New	2018	20,000	Creation of maturation areas	LOS2	ILS	Medium	Probable
7430.730.401	New	2019	20,000	Creation of maturation areas	LOS2	ILS	Medium	Probable
7430.730.401	New	2020	20,000	Creation of maturation areas	LOS2	ILS	Medium	Probable
7430.730.401	New	2021	20,000	Creation of maturation areas	LOS2	ILS	Medium	Probable
7430.730.401	New	2022	20,000	Creation of maturation areas	LOS2	ILS	Medium	Certain

Category: ILS = Improve Level of Service  
MAD = Meet Additional Demand  
RCA = Replace Current Assets

**Table 113: Whole of Life Plan**

Code	NEW/ RENEW	Year	Cost	Explanation	Source of Project	Category	Priority Assumptions	Project Probability
7430.712.401	New	2013	10,000	Update of WOL budget	LOS6	ILS	Medium	Certain
7430.712.401	New	2014	10,000	Update of WOL budget	LOS6	ILS	Medium	Certain
7430.712.401	New	2015	10,000	Update of WOL budget	LOS6	ILS	Medium	Certain
7430.712.401	New	2016	30,000	Review of WOL plan, update of WOL budget	LOS6	ILS	High	Certain
7430.712.401	New	2017	10,000	Update of WOL budget	LOS6	ILS	Medium	Certain
7430.712.401	New	2018	10,000	Update of WOL budget	LOS6	ILS	Medium	Certain
7430.712.401	New	2019	10,000	Update of WOL budget	LOS6	ILS	Medium	Certain
7430.712.401	New	2020	10,000	Update of WOL budget	LOS6	ILS	Medium	Certain
7430.712.401	New	2021	10,000	Update of WOL budget	LOS6	ILS	Medium	Certain
7430.712.401	New	2022	10,000	Update of WOL budget	LOS6	ILS	Medium	Certain

Category: ILS = Improve Level of Service  
MAD = Meet Additional Demand  
RCA = Replace Current Assets

**Table 114: New Bins**

Code	NEW/ RENEW	Year	Cost	Explanation	Source of Project	Category	Priority Assumptions	Project Probability
7430.705.555	New	2013	48,500	New bins for growth	LOS1	MAD 50% RCA 50%	High	Certain
7430.712.401	New	2014	48,500	New bins for growth	LOS1	MAD 50% RCA 50%	High	Certain
7430.712.401	New	2015	48,500	New bins for growth	LOS1	MAD 50% RCA 50%	High	Certain
7430.712.401	New	2016	48,500	New bins for growth	LOS1	MAD 50% RCA 50%	High	Certain
7430.712.401	New	2017	48,500	New bins for growth	LOS1	MAD 50% RCA 50%	High	Certain
7430.712.401	New	2018	48,500	New bins for growth	LOS1	MAD 50% RCA 50%	High	Certain
7430.712.401	New	2019	48,500	New bins for growth	LOS1	MAD 50% RCA 50%	High	Certain
7430.712.401	New	2020	48,500	New bins for growth	LOS1	MAD 50% RCA 50%	High	Certain
7430.712.401	New	2021	48,500	New bins for growth	LOS1	MAD 50% RCA 50%	High	Certain
7430.712.401	New	2022	48,500	New bins for growth	LOS1	MAD 50% RCA 50%	High	Certain

Category: ILS = Improve Level of Service  
MAD = Meet Additional Demand  
RCA = Replace Current Assets

**Table 115: Waste Levy Capex Allocation**

Code	NEW/ RENEW	Year	Cost	Explanation	Source of Project	Category	Priority Assumptions	Project Probability
Not yet designated	New	2013	5,000	Timber Report	Waste Min. Act 2008	ILS	2	Preferred
			5,000	Special Waste Report		ILS		
			5,000	Public Place Recycling		ILS		
	New	2014	7,000	Public Place Recycling	Waste Min. Act 2008	ILS	2	Preferred
	New	2015	7,000	Public Place Recycling	Waste Min. Act 2008	ILS	2	Preferred
	New	2016	7,000	Public Place Recycling	Waste Min. Act 2008	ILS	2	Preferred
	New	2017	7,000	Public Place Recycling	Waste Min. Act 2008	ILS	2	Preferred
	New	2018	7,000	Public Place Recycling	Waste Min. Act 2008	ILS	2	Preferred
	New	2019	7,000	Public Place Recycling	Waste Min. Act 2008	ILS	2	Preferred
	New	2020	7,000	Public Place Recycling	Waste Min. Act 2008	ILS	2	Preferred
	New	2021	7,000	Public Place Recycling	Waste Min. Act 2008	ILS	2	Preferred
	New	2022	7,000	Public Place Recycling	Waste Min. Act 2008	ILS	2	Preferred

Category: ILS = Improve Level of Service  
MAD = Meet Additional Demand  
RCA = Replace Current Assets

**Table 116: Resource Recovery Park**

Code	NEW/ RENEW	Year	Cost	Explanation	Source of Project	Category	Priority Assumptions	Project Probability
		2013						
		2014						
Not yet designated	New	2015	30,000	Resource Recovery Park Design	Waste Min. Act 2008	ILS	2	High
	New	2016	315,000	Resource Recovery Park Build	Waste Min. Act 2008	ILS	2	High
		2017						
		2018						
		2019						
		2020						
		2021						
		2022						

Category: ILS = Improve Level of Service  
MAD = Meet Additional Demand  
RCA = Replace Current Assets

## **27.6 FUNDING STRATEGY**

Collection services are funded by a targeted rate for the actual users of the collection service, which is compulsory in urban areas. In the rural area, if a resident does not receive the collection service, they do not pay the targeted rate.

Operational services are funded by revenue from tipping fees and charges, general rates and any interest or dividends that may be allocated by Council.

### **Waste Levy**

Some of the levy will be used to fund operating activity which is new or expended activity since the implementation of the waste levy.

A portion of the levy will be used to fund new capital projects.

The remainder of the waste levy revenue returned from the Ministry for the Environment will be used to offset costs associated with the collection and processing of materials for recycling and composting from the three bin collection service.

## **27.7 VARIATIONS TO CASHFLOW**

It is not envisaged that any smoothing is required for the activity cashflow.

## **27.8 FUTURE IMPROVEMENT**

It is expected that increases in fees and charges for waste disposal to landfill will be limited during the period. A more equitable system of charging light vehicles by weight was introduced in 2010 with the implementation of weighbridges at the Temuka and Geraldine transfer

stations and a second weighbridge at the Redruth site to make allowance for waste that is separated out for reuse, recycling and composting. Small vehicles (cars and station wagons) paid a volume based charge with all other vehicles paying a minimum charge set at 20% of the full rate. Twenty percent of the rate is based on the fact that 200kg is 20% of a tonne. To comply with the Weights and Measures Act, Council cannot charge by weight for any less than 20 divisions of the weighbridge scale (= 200kg).

Weighbridge records indicate that about 40% of the vehicles do not reach the minimum weight, therefore from 2012/13 volume based charges will include cars, utes, vans, station wagons and trailers weighing less than 200kg.

Vehicles weighing more than 200kg will pay pro rata by weight.

### **Key Assumptions Made in Financial Forecasts**

Users will pay 100% for waste disposal through targeted rates and tipping fees and charges. The portion of waste minimisation activity that contributes to the public good will be funded through a contribution from the general rate.

Although councils were originally recommended to budget ETS costs at \$25 (ex GST) per carbon unit, the market price of carbon unit has fallen considerably. Council's Corporate Services Manager has obtained audit approval to use a purchase cost of \$15 for a carbon unit (ex GST) for budgetary purposes.



## 28 Managing the Activity

### 28.1 OVERALL MANAGEMENT

The Solid Waste activity falls in the District Services Group and the District Services Manager is responsible for overall management.

The Senior Waste Management Officer (SWMO) reports to the District Services Manager, who reports to the Chief Executive.

The SWMO is responsible for ensuring that Council staff, the Council's main contractor TPI, and other contractors provide:

- the level of service to enable the day to day operations to occur, and;
- any other requirements necessary for the management of solid waste activities.

The SWMO monitors progress and reports on the:

- objectives and performance measures in the Solid Waste Plan,
- key performance indicators of the operational contract with TPI,
- LTP/Annual Plan.

Reporting is undertaken monthly, quarterly and annually as required.

### 28.2 ACCOUNTING/FINANCIAL SYSTEMS

#### Cost Recovery

Revenue from the collection activity is paid for by the targeted rate.

The operational costs for street side litter bins are funded by general rates.

#### Transfer Stations

Revenue from fees and charges is paid either by cash, cheque, eftpos transaction or is invoiced monthly to account holders.

Transfer station staff are responsible for immediate entry of transactions and cash collection.

Council Corporate Services staff are responsible for generating invoices and recovery of revenue from customers as well as arranging cash collection, bad debtors and banking.

Council has developed an in-house landfill reporting programme to charge disposal fees. Customer, Category and Product details are maintained in the database.

The transfer stations at Redruth, Temuka and Geraldine utilise the programme. Pleasant Point is a cash only site with no computer.

All vehicles pay fees by a tonne rate, except cars and station wagons which are on a fixed rate. From 2012, low volume trailers will also pay by weight.

### 28.3 ACTIVITY MANAGEMENT SYSTEMS

#### Bin Database

The Council has developed a bin database to record the number of bins that are allocated to each property. The serial numbers of bins are also identified. Additional bins not included as part of the targeted

rate are identified on the rates bill as extra and charged through the rates. Additional bins issued during the year are charged for by Council's debtors system before issue.

There may be some errors in bin allocation and serial numbers, however, bin monitoring staff constantly monitor and update bin details.

The cost of cross checking all the bins and serial numbers is not justifiable.

### **Service Request System**

The Council service request system records several codes for the collection services, so reports can be generated to identify missed services, new services, repairs, stolen and damaged bins.

The service request system is also used for recording complaints for solid waste sites.

### **TPI Monthly Reports**

TPI provide a monthly report on the performance of the operational contract across all activities. In particular, the following points are included:

- Health and Safety Incident statistics,
- Collection:
  - Bins in circulation,
  - Presentation rates,
  - Monthly tonnages:
    - Gross Weight processed,
    - Contamination,
    - % of Waste Diverted.

- Key Performance Indicators:
  - Customer Satisfaction,
  - Diversion of waste from landfill.
- Compliance,
- General Operational Comments:
  - Staff,
  - Collections,
  - Landfill,
  - Transfer Stations,
  - Composting,
  - Recycling Facility,
  - Maintenance (inclusion from early 2012).

Copies of the reports are filed in Council's electronic document system and a summary of document numbers is maintained in a notebook by the SWMO.

### **Landfill Reporting Programme (in-house)**

The landfill reporting programme records vehicle numbers and weights for charging purposes.

Reports can also be generated to identify vehicle numbers, categories, customer details and product type.

Weights and product identification enable reports for waste diversion, the landfill levy payment and ETS liabilities.

Entries are manually entered and there may be some very minor discrepancy with keying error and product identification.

Overall, the level of error is acceptable.

### **Waste Exchange**

A proprietary software package is utilised to record the type and amount of waste that is reused through the waste exchange. This will transfer to a web-based system run by the Christchurch City Council in 2012/13. ([www.freematerials.co.nz](http://www.freematerials.co.nz))

### **TDC Document System**

All other relevant data and information is stored in the Council document system.

### **Information Flow and Processes**

The key information flows are:

- monthly financial reports,
- monthly reports from TPI,
- monthly updates to the bin database for rating purposes, with all updates by 30 June to enable rates to be finalised,
- invoicing customers pro rata for additional bins,
- real time daily entry on transfer station computers,
- invoicing customers monthly for weighbridge tallies,
- monthly reporting on waste quantities for KPI and landfill levy.

## **28.4 INFORMATION COLLECTION**

### **Responsibilities**

Transfer station staff are responsible for immediate entry of transactions into the system.

Council Corporate Services Staff will collate financial data and reports.

The SWMO is responsible for ensuring:

- monthly reports are produced for categories and product type from the transfer stations.
- That bin data is supplied by TPI and that the bin database is updated monthly for the Rates Unit.

### **Standards and Guidelines**

Solid waste facilities and sites have been designed and are operated to ensure compliance with resource consent conditions. Operational management plans which incorporate various standards and guidelines have been prepared by TPI.

Best industry practice has been adopted in the provision of services and facilities.

Recyclable materials are sorted and baled by TPI to comply with the relevant product standards.

Compost is produced by TPI so that products sold to the public comply with the New Zealand Compost Standard, NZS 4454.

### **Risks and Risk Management**

No formal risk register has been prepared for Solid Waste Activities. A risk register is to be prepared by the solid waste unit.

The main environmental risks associated with Redruth Landfill and transfer stations, include:

- Leachate escape to groundwater or surface water,
- Litter,
- Odour.

The main environmental risks associated with the compost site include:

- Odour,
- Dirty stormwater,
- Leachate entering the stormwater system.

The design and operational management of the above facilities ensures that the above risks are mitigated or significantly reduced. These include emergency response plans.

There are many potential risks and these will need to be identified according to priority based upon impact and probability.

### **Assets**

For detailed asset information refer to chapter 27 (p120).

## 29 Improving the Plan

### 29.1 KEY PERFORMANCE MEASURES

The key performance measures for this plan are:

- Progress towards zero waste.
- Customer satisfaction with kerbside collection services.
- Customer satisfaction with access to facilities.
- Compliance with relevant legislation.

### 29.2 EFFECTIVENESS OF THE PLAN

Periodic reporting will measure progress and the overall effectiveness of meeting the levels of service as well as achieving the main goals of the Waste Management and Minimisation Plan.

Significant infrastructure has been established and this will not change greatly before 2019. A measure of customer satisfaction will be undertaken every three years (2011, 2014, 2017, 2020, 2023).

Monthly reporting will be utilised to collate data on:

- LOS 1, Missed bins,
- LOS 2, Organic tonnages
- LOS 3, Recycling tonnages
- LOS 4, Reuse and other recycling tonnages
- LOS 7, contamination levels for MRF/composting.

The above reports will be collated into Quarterly Reports which will also include:

- LOS 5, User satisfaction ( 3 yearly survey)
- LOS 6, Resource Consents
- LOS 8, Public information and education.

### 29.3 MONITORING AND REVIEW PROGRAMME

This plan is to be reviewed every six years. If required by the District Services Manager, an external audit of this activity plan may be undertaken.

Procedures and timeline for performance reporting are monthly, quarterly and annually.

Key points for improvement include:

- Collate asset data and improve financial projections management
- Provide updated site plans with services
- Develop a maintenance programme
- Confirm a renewal and replacement plan
- Undertake risk management analysis
- Develop environmental management system
- Consult to establish customer values

Previous and future actions are summarised in the following section.

## 29.4 PLAN IMPROVEMENT PROGRAMME

**Table 117: Asset Management Plan Improvement Programme**

Note: 1 = high priority

3 = lower priority OTW = On the way

No	Year By when	Action	WMMP Linkage	Cost	Resources	Priority	Status
1	Asset Data & Management						
	2008	No formal documentation.	-			-	Identify issue
	2009/10	Assets database created in Hansen.	-			-	Completed
	2012/13	Complete ID of missing assets. Date assets and assign life.	27.2	\$10,000		1	Future
	2014/15	Produce Asset Management Plan .	27.2		Internal/external	1	Future
	2016/17	Renew asset valuations.	27.3		Internal/External	2	Future
2	Site Plans & Services						
	2008	Old plans in storage with some services not located.	-			-	Identify issue
	2010	Identify all services and locate for digital input.	-			-	Completed
	2011/12	Overlay services on new air photos and have available electronically on GIS.	-		Internal	-	Completed
*	2011/12	Conduct a Gap Analysis and add to data.	18.6	\$10,000 WOL plan	Internal/External Contract underground locators to locate missing services. Surveyors to follow up	1	OTW
	2012/13	Create working database for Solid Waste Unit.	27.2	-	Internal (GIS Unit) Most services identified in GIS.	1	OTW
3	Maintenance Programme						
	2008	No formal documentation	-			-	Identify issue
	2010	Produce Maintenance Programme for stormwater pumps.	-			-	Complete

No	Year By when	Action	WMMP Linkage	Cost	Resources	Priority	Status
	2013/14	Produce Maintenance Programme for contract.	27.4		Internal Need to incorporate maintenance from existing contract services and plan for infrastructure	2	Future
4	Renewal and Replacement Plan						
	2008	No formal documentation.	-			-	Identify issue
	2015/16	Produce Renewal & Replacement Plan.	27.6			3	Future
5	Risk Management						
	2008	No Documented Risk Assessment.				-	Identify issue
	2016/17	Develop risk register and methods to eliminate or reduce risk profile.	29.5		External Hold risk workshop with stakeholders	3	Future
6	Environmental Management						
	2008	No formal EMS in place.					Identify issue
	2008/09 2009/10	Reformat annual report for landfills to include rural landfills.	-			3	Complete
	2012/13	Need an Overall Environmental Report as identified in the Solid Waste Plan.	21.5		Internal	1	OTW
	2012/13	Investigate environmental management systems and sustainability requirements, e.g. carbon footprint.			Internal	3	Future
7	Review and Update Solid Waste Plan						
	2003	Solid Waste Plan developed.	-		Internal/external Need to undertake waste assessment	-	Complete
	2010	Review Solid Waste Plan progress goals.	-			-	Complete
	2011/12	Conduct Waste assessment.	-		Internal/External	-	Complete
	2012	Prepare WMMP.	4.1			1	Drafted

No	Year By when	Action	WMMP Linkage	Cost	Resources	Priority	Status
	2012/13	Create data appendix to record all results for LTP and operational performance measures.			Internal	1	Future
8	Customer Values and Maintenance of New Expectations						
	2008	Service levels already established.	-			-	Complete
	2011	Consult with the community to assess satisfaction with services levels and any possible changes.	-		Communitrak Survey	1	Complete (2011)
	2012	Special Consultative Procedure for WMMP.	4.1		With LTP	1	
	2014	Consult with the community to assess satisfaction with services levels and any possible changes.	12.9		Communitrak Survey	1	Future
	2017		12.9				
	2017	Waste Assessment.	4.4		Internal	1	Future
	2017	Conduct SWAP.	4.4	\$10,000	External	1	Future
	2018	Renew WMMP.	4.4		Internal	1	Future
	2020		12.9				
9	Financial Management						
*	2012/13	Check asset depreciation schedules. Compost pads schedule needs amending.	31.4		Internal	1	Future
*	2012/13	Investigate splitting out new bins expenditure into: MAD = Meet Additional Demand; RCA = Replace Current Assets.	28.6		Internal	3	Future



No.	Description	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
1	Asset Data and Management										
	Complete ID of missing assets. Date assets and assign life.										
	Produce Asset Management Plan.										
2	Site Plans and Services										
	Renew asset valuations.										
	Create working database for Solid Waste Unit.										
3	Maintenance Programme										
	Produce Maintenance Programme for contract.										
4	Renewal and Replacement Plan										
	Produce Renewal and Replacement Plan.										
5	Risk Management										
	Develop risk register and methods to eliminate or reduce risk profile.										
6	Environmental Management										
	Need an Overall Environmental Report as identified in the Solid Waste Plan.										
	Investigate environmental management systems and sustainability requirements, e.g carbon footprint.										
7	Waste Management and Minimisation Plan										
	Prepare WMMP.										
	Create data appendix to record all results for LTP and operational performance measures.										

No.	Description	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
8	Customer Values and Expectations										
	Special Consultative Procedure for WMMP.										
	Consult with the community to assess satisfaction with services levels and any possible changes.										
	Waste Assessment.										
	Conduct SWAP.										
	Review WMMP.										
9	Financial management										
	Check asset depreciation schedules. Compost pads schedule needs amending.										
	Investigate splitting out new bins expenditure into: MAD = Meet Additional Demand, RCA = Replace Current Assets.										

## 30 Assumptions

### 30.1 CORPORATE ASSUMPTIONS

#### Forecasting Assumptions

The Council has applied a number of assumptions in planning for the next ten years and preparing the 2012-22 LTP. Assumptions are essential to identifying some of the issues that may impact on Council activities in the next ten years, including their anticipated effects and costs. However, Council recognises that assumptions, by their very nature, are subject to change and unpredictability.

The Local Government Act 2002 requires the Council to identify significant forecasting assumptions and the risks underlying the financial estimates. Where there is a high level of uncertainty, Council is required to state the reason for that level of uncertainty and provide an estimate of the potential effects on the financial estimates. These are illustrated in the table at the end of each section.

### 30.2 SIGNIFICANT ASSUMPTIONS

The following Significant Assumptions, split into General and Financial Assumptions, apply to Solid Waste.

### 30.3 GENERAL ASSUMPTIONS

#### Growth and Demand

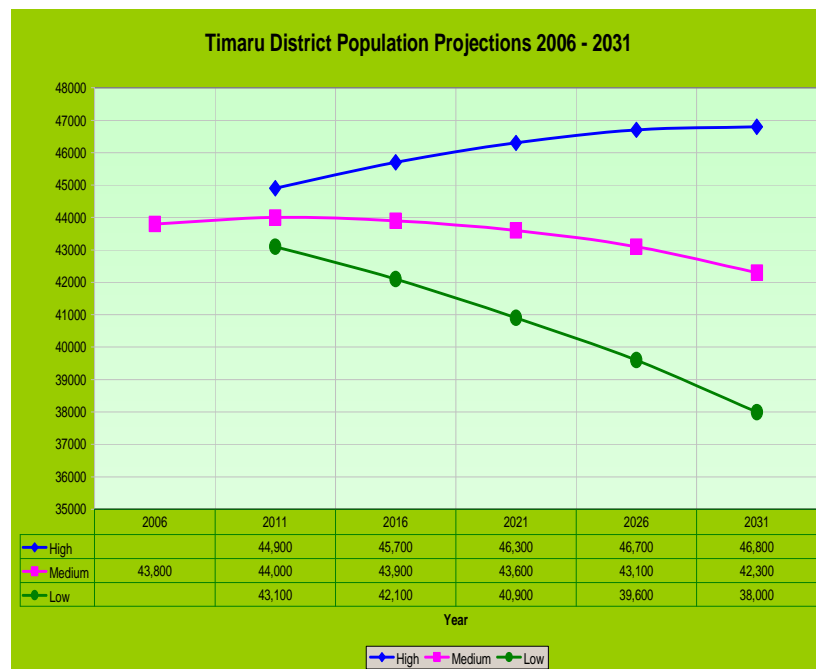
The following growth and demand assumptions apply to the development of the 2012-22 LTP.

#### Population Change

The Council is using Statistics NZ population projections (medium to average medium-high scenario) as the basis for its population change (see graph). These use a base population at 30 June 2006 of 43,800. Use of this range is to cover the lack of updated data, recognition of ongoing growth in Timaru District and potential impact of the Canterbury earthquakes.

The District's Population is expected to change by between 0.2%-3.2% to 2021 and -2.5%-4.9% to 2031.

**Figure 16: Timaru District Population Projections**



This population change is projected to occur largely in rural areas and some smaller townships. The Timaru District has historically been characterised by slow but consistent population growth, with pockets of stronger growth in some locations and communities.

### Demographic Change

Some significant demographic changes are anticipated for the Timaru District over the next twenty years. These are unlikely to affect the provision of solid waste services.

### Household/Dwellings Change

Future households have been projected using adapted Statistics NZ household projections. These project a district-wide increase in households of between 8.7–12.6% to 2021. For the main urban communities in the district, the following forecasts have been made:

**Table 118: Population Projections**

Community	2006 Estimate	Projection to 2021	15 Year Increase (No.)
Timaru (urban)	11,260	11,392-11,553	132-293
Timaru ( rural)*	3460	4130-4245	670-785
Temuka	1,790	1,930 – 2,106	140-316
Geraldine	1,050	1,120–1,208	70-158
Pleasant Point	492	538	46
Pareora	180	170-180	-10 – 0
Winchester	110	120-125	10-15

\*Includes Fairview-Scarborough, Otupua Creek-Washdyke Flats, Ben McLeod, Orari, Levels

Smaller households and an increase in the number of households has an impact on collection services as each household in urban areas require a set of bins.

### Economic Growth

Growth in new business properties in urban areas will require new bins. Growth in larger scale businesses will not affect collection services greatly, as they are usually serviced by commercial

collectors. Overall, growth is likely to increase waste to landfill, but this may be offset by increasing waste minimisation activity.

### **Demand**

Demand for Council services is dependent on numerous issues, including the various forms of growth in the district, changes in the makeup of the population, development or closure of existing business or industry and central and regional government policy.

### **Useful Lives of Significant Assets**

The useful lives of significant assets are listed below:

- Landfill – Expiration of existing consent is 2030, but landfill life is expected to be till 2050 or longer.
- MRF - 50 years
- Transfer stations - 50 years
- Composting facility - 20 years. The composting facility has been depreciated at 2% giving it a useful life of 50 years. This is unrealistic and needs to be adjusted.

### **Resource Consents**

It is assumed that major resource consents for projects will be renewed during the period. The most significant resource consents due for renewal in the period are the following:

**Table 119: Resource Consent Expiry Dates**

Consent	Expiry Date
Landfill	2030
Transfer stations	2032, 2034, 2041

### **Effects of Future Legislation**

It is assumed that the following Acts may impact on Council solid waste activities over the next few years:

- Climate Change Response Act 2002 (Emissions Trading Scheme)
- Waste Minimisation Act 2008
- HSNO Act

Anticipated impacts from the above legislation have been incorporated into the LTP. The impact of other legislative change will be responded to as it arises.

### **Climate Change**

Climate change will impact on Council's operations and will require an appropriate response to adapt and prepare for potential impacts.

Climate change effects on Timaru District may include an increase in temperature, stronger winds, sea level rise, longer dry periods and more intense rainfall events.

These changes may impact directly on solid waste operations such as composting and landfilling.

## 30.4 RISKS CONSIDERED WHEN PREPARING GENERAL ASSUMPTIONS

Table 120: General Assumptions

Assumption	Confidence Level (High, Medium, Low)			Risk	Risk Level (High, Medium, Low)			Consequence of variation to assumption	Mitigation Approach
	H	M	L		H	M	L		
<p><b>1. Inflation</b></p> <p><i>Assumption:</i> The LTP is prepared on a zero inflation basis beyond 2012/13.</p> <p><i>Comment:</i> Council prepares the financial statements in the LTP on the assumption of zero inflation given the inherent unreliability of inflation predictions. The inclusion of inflation could seriously undermine the qualitative characteristics of the LTP.</p> <p>This allows the community the greatest opportunity to understand the financial implications of the decisions being made utilising information in the LTP.</p> <p>The Council does recognise that some inflation is inevitable over the next 10 years, albeit at an unpredictable rate. Therefore, supplementary information is included in this section, including a Total Rate Requirement table, Income Statement, Statement of Cashflows and Balance Sheet which include inflation at 3.52% per annum.</p> <p>This inflation figure of 3.52% was derived by calculating the average inflation rate estimated by BERL who were commissioned by the Society of Local Government Managers and the Office of the Auditor General in September 2011 to provide local government with an estimate on inflation over the period covered by the LTP.</p> <p>This information is provided to the community to show the impact of inflation on the Total Rate Requirement over the period covered by the LTP. It also illustrates the impact of</p>			✓	The rate of inflation differs from that assumed.		✓		A significant change in inflation will result in changed income and expenditure. These could be significant and may adversely affect the ability of the Council to set rates at a level that is affordable to the community.	<p>The Council will review its budget annually through the LTP/Annual Plan process and may adjust work programmes/budgets where necessary.</p> <p>Inflation will be added as part of the normal Annual Plan process. This will reflect latest information available, and in the Council's opinion represents a more accurate approach.</p>

Assumption	Confidence Level (High, Medium, Low)			Risk	Risk Level (High, Medium, Low)			Consequence of variation to assumption	Mitigation Approach
	H	M	L		H	M	L		
inflation on the total operating costs and other revenue of the Council.									
<b>2. Interest Rates on borrowing</b> <i>Assumption:</i> Interest on borrowing is assumed to be 7.0%. <i>Comment:</i> Forecast financial statements are prepared on the assumption that Council's status of shareholder and member of the Local Government Funding Agency (LGFA) has no impact on the forecasts.		✓		Forecast interest rates on borrowing are higher or lower than forecast.		✓		Council costs could increase or decrease as interest rates fluctuate up and down. Based on Council's projected debt levels, interest cost would increase/decrease by \$839,800 and \$1,005,000 per year for each 1% movement in effective interest rate.	Council hedges interest rate exposures as per the Liability Management Policy.
<b>3. Return on investments</b> <i>Assumptions:</i> Bank deposits and bond portfolio assumed return is 5.0% Timaru District Holdings Limited assumed return is \$1.84 to \$2.17 dividend per share annually. Forestry assumed return is \$0 over the 10 years.	✓			Forecast returns are higher or lower than forecast.		✓		Council income could increase or decrease as investment returns fluctuate up and down. A 1% decrease in dividend will reduce Council's income by up to \$21,727 pa.	Council maintains a long term investment portfolio with fixed interest rates which minimises fluctuations. Investments are also managed using the Investment policy to minimise risks. Changes in investment returns are generally partially offset by a change in borrowing costs.

Assumption	Confidence Level (High, Medium, Low)			Risk	Risk Level (High, Medium, Low)			Consequence of variation to assumption	Mitigation Approach
	H	M	L		H	M	L		
<b>4. Funding Sources</b> <i>Assumptions:</i> Funding sources will not change over the three year life of this plan. <i>Comment:</i> Funding sources are specified in the Revenue and Financing Policy and Financial Strategy. This applies to fees, charges and external funding towards projects and assets. It is assumed that the policy of not collecting Development Contributions will continue.		✓		Projected revenue from user charges is not achieved. Major industrial users leave the district.		✓		Revenue could reduce without the ability to reduce expenditure proportionately. In this event, the account would run in deficit, with charges reviewed for the next financial year. Project and asset funding could result in projects being revised or alternative funding sources used.	Levels of revenue from user charges have been set at realistic levels. There is a concentration of risk associated with a small number of industrial consumers for some revenue streams (e.g. extraordinary water charges and trade waste charges). Regular contact is maintained with these consumers. Funding for projects and assets is considered before the commencement of each project or asset.
<b>5. Credit availability</b> <i>Assumption:</i> Credit can be obtained from financial markets on competitive terms and conditions.	✓			Required credit cannot be obtained from financial institutions.		✓		Funding would need to be obtained from alternative sources or work programmes adjusted.	Prudent debt levels are maintained to mitigate risk for financial institutions. Relationships are maintained with various financial institutions and Council regularly monitors credit markets.
<b>6. Costs</b> <i>Assumption:</i> Costs will remain stable over the period of the LTP (refer also to inflation assumption). Maintenance expenditure has been based on historical trends.			✓	Costs are higher or lower than anticipated		✓		Variability of prices, such as for oil, could cause variability in costs.	The Council will review its budget annually through the LTP/Annual Plan process and may adjust work programmes/budgets where necessary.
<b>7. Currency fluctuations</b> <i>Assumptions:</i> Currency fluctuations are not forecast to cause significant variability in Council costs. Exchange rates are forecast to remain unchanged from current rates.		✓		Exchange rates fluctuate more than expected.			✓	Variability of prices from international suppliers could cause variability in Council costs.	Council purchases goods predominantly from New Zealand suppliers with contracts in New Zealand dollars.



Assumption	Confidence Level (High, Medium, Low)			Risk	Risk Level (High, Medium, Low)			Consequence of variation to assumption	Mitigation Approach
	H	M	L		H	M	L		
<b>8. NZ Transport Agency Subsidies</b> <i>Assumption:</i> There will be no changes to the funding regime administered by the New Zealand Transport Agency, including funding criteria and NZTA funding. <i>Comment:</i> Subsidy rates are currently between 53% and 65% depending on the nature of the project.		✓		Changes in NZTA Subsidy rates or to criteria for roading and footpath projects		✓		Funding would need to be obtained from alternative sources or work programmes adjusted. The Level of Service may need to be adjusted.	The Council will review its budget annually through the LTP/Annual Plan process and may adjust work programmes/budgets where necessary.
<b>9. Emissions Trading Scheme</b> <i>Assumptions:</i> NZUs will be received for pre 1990's forests in 2012. Some NZU's will be surrendered over the term of the LTP for deforestation. It will cost \$16.50 per tonne of waste based on a price of \$15 per NZU and using the default emissions factor for landfill emissions.		✓		Changes could be made to the scheme by the government that have an adverse impact on TDC or the carbon price could be higher or lower than expected.		✓		Council could hold more or less NZU's for forestry assets. Landfill costs could vary resulting in changing landfill user charges.	Forestry assets are maintained with a long term view but programmes are reviewed annually. Any sale of forestry land will compensate for the loss of NZUs and associated benefits. Landfill costs and waste volumes are monitored continuously.
<b>10. Asset depreciation rates</b> <i>Assumption:</i> Asset depreciation rates will not change as shown in the Accounting policies. <i>Comment:</i> Depreciation rates are shown in the Accounting Policies. The following average depreciation rates have been used for planned asset acquisitions: <ul style="list-style-type: none"> <li>Buildings 2.0%</li> <li>Roads 1.5%</li> <li>Water 1.0%</li> <li>Wastewater 1.5%</li> <li>Stormwater 1.0%</li> <li>Office equipment 20.0%</li> <li>Computers 30.0%</li> <li>Plant &amp; vehicles 20.0%</li> </ul>	✓			Further work on planned capital works may alter the depreciation expense.		✓		Increased depreciation costs would result from assets that have shorter useful lives.	Asset life is based on the estimates of engineers and valuers. These are regularly reviewed through asset monitoring and testing. Negative impacts are likely to be at least partially offset by some assets lasting longer than estimated.

Assumption	Confidence Level (High, Medium, Low)			Risk	Risk Level (High, Medium, Low)			Consequence of variation to assumption	Mitigation Approach
	H	M	L		H	M	L		
<b>11. Revaluation of significant fixed assets</b> <i>Assumption:</i> The Council have adopted deemed cost as its approach to revaluation. <i>Comment:</i> This has been applied from 1 July 2005 for most assets. Investment properties and forest assets will be revalued annually in terms of their respective accounting policies.	✓			Minimal risks as asset revaluations will not occur in the future for property, plant and equipment.			✓		Revaluation affects the carrying value of fixed and infrastructural assets and the depreciation charge in the years subsequent to the revaluation. Annual revaluations are undertaken for investment properties and forestry assets.

## 30.5 FINANCIAL ASSUMPTIONS

### Price Level (Inflation) Adjustments

Council has budgeted the 2012/13 year at current costs plus inflation. For the remaining years of the LTP, Council has decided not to include inflation in its cost estimates.

Council believes that the application of price level adjustments in years beyond year one should occur, but closer to the year in question.

### Depreciation Rates on Planned Asset Acquisitions

The following average depreciation rates have been used for planned asset acquisitions :

- Buildings – 2%
- Roads – 1.5%
- Water – 1%
- Wastewater – 1.5%
- Stormwater – 1%
- Office equipment – 20%
- Computers – 30%
- Plant Vehicles – 20%



*Customers can enact a range of transactions at the transfer station kiosks including payment for waste disposal, purchase of compost and payment for scrap disposal.*

*Site safety rules are posted at all sites.*

## 30.6

## 30.7 RISKS CONSIDERED WHEN PREPARING FINANCIAL ASSUMPTIONS

Table 121: Financial Assumptions

	Risk to Assumption	Risk Level	Likely Financial Effect	Effects/Mitigation Strategy
Price Level (Inflation) Adjustments	That the rate of inflation differs from that assumed.	Medium	Medium	Council will review its budget annually through the LTP/Annual Plan process and may adjust work programmes/budgets where necessary.
Funding Sources for Significant Assets	That projected revenue from user charges is not achieved.	High	High	Levels of revenue from users charges have been set at realistic levels. In the event of targets not being achieved the charges will be reviewed for the next financial year.
	That major users of the landfill leave the district.	Medium	High	A small number of consumers represent a large proportion of the solid waste revenue stream. The loss of one or more of these consumers through waste flight may adversely affect revenue without the ability to reduce costs proportionately. This may be mitigated to some extent by reducing disposal costs for Landfill Access permit holders to encourage disposal at Redruth. This will be offset by the loss of projected income due to the reduction in charges.
Revaluation of Significant Fixed Assets	No risk as asset revaluations will not occur in the future.	Low	Low	Revaluation affects the carrying value of fixed and infrastructural assets and the depreciation charge in the years subsequent to the revaluation.
Depreciation Rates on Planned Asset Acquisitions	That further work on planned capital works may alter the depreciation expense.	Low	Low	Asset capacity and condition is monitored, with replacement works planned or in accordance with standard asset management and professional practices. Depreciation is calculated in accordance with normal accounting and asset management practices.

### 30.8 OTHER ASSUMPTIONS

Council has also made the following other assumptions which impact on some Council activities:

#### **Natural Resources Regional Plan/National Coastal Policy Statement**

This WMMP does not include the potential impacts of these plans on affecte

d activities. The existing situation is being maintained until such time as these documents are fully operative.

#### **Natural Disasters**

Existing budget provisions exclude the financial impact of a major natural disaster. This impact is dependant on the scale, duration and location of the event. Where Council could not fund from existing budgets, central government assistance and insurance arrangements will reduce some of Council's financial risk.



*The “CRAMBO” shreds and mixes green waste material prior to the material being placed in windrows and covered to start composting.*

## 30.9 ACTIVITY ASSUMPTIONS

**Table 122: Solid Waste Tonnage**

No.	Assumption	Level of Uncertainty	Reasons and Effect of Uncertainty	Level of Significance of Assumption
1	Any growth in solid waste tonnages or properties receiving Collection Services can be managed within current resources with the exception of the compost facility.	Low	New houses and businesses as well as existing businesses joining the collection service. At present there is sufficient capacity with resources to cope with this growth until the end of the contract in 2021 with the exception of the compost facility which has a threshold of 16,000 tonnes.	Bin Numbers: July 2006: 54,613 (establishment of contract) June 2011: 58,849 (8% increase) Compost facility currently processing approximately 14,000 tonnes per annum and could reach capacity in 2015. Growth will be monitored and future capital allowed for any further growth.
2	Annual Tonnages landfilled will continue to decline.	Low-High	There is a historic correlation between economic growth and waste disposed of.  Possibility of commercial waste operators taking waste out of district.  Charges will affect some waste quantities and vehicle numbers to facilities.  Weather and seasonal influences may cause fluctuation in organic waste quantities. Natural events may create significant amounts of waste. (The 2006 snowstorm created large amounts of garden debris.)	Overall risk of increasing tonnes is low and the significance is low. However, the risk of waste flight is high so tonnes may reduce suddenly. Cheaper out-of-district waste disposal poses significant threats to Council's budget. Tonnes landfilled: excludes cleanfill and cleanfill as cover. Includes wastes used as cover. 2007/08 34,793T 2008/09 29,566T 2009/10 23,975T 2010/11 22,430T 2011/12 17,110T estimated

No.	Assumption	Level of Uncertainty	Reasons and Effect of Uncertainty	Level of Significance of Assumption
3	Further waste diversion measures will be introduced which will reduce waste being landfilled.	Med-High	While Council wishes to ensure further progress on waste diversion, additional costs may be deemed unaffordable to the community, unless funding can be obtained from the contestable levy fund. Alternatively, regulations may require further diversion or programmes to be established.	Further reduction of waste to landfill will influence the pricing structure of disposal fees for waste to be landfilled and this may be of minor significance. To do nothing and reduce the life of the landfill will result in a significant increase in disposal fees to transport waste out of the district which could be medium to major significance in the future.
4	Landfill cover material will be exempted from the Waste Minimisation Act 2008 Waste Levy.	Low	From July 2012, waste used as cover is not exempt and the levy must be paid. However, there is no levy on cleanfill used as cover.	Most waste used as cover is biodegradable and intentions are to redirect this waste where possible to minimise the impact of ETS tax. If not possible, then full charges will be made on the waste.
5	Resource consents.	Med	Existing consents are in place long term, but some resource consents are still required for Temuka Transfer Station and the Redruth site.	The cost of implementing a global storm water consent for the Redruth site could be significant.

### **Changes in Technology**

It is not envisaged that there will be any significant changes in technology for the existing solid waste facilities. The operational contract is due to expire in 2021.

There may be some minor changes to some aspects of plant, however, this will not change the current methodologies.

Consideration of other technologies will be required if further waste diversion is to be implemented. A new organic processing facility will be required to process the industrial putrescible organic waste stream which includes milliscreenings from Council's wastewater plant and other industrial screening. The existing compost plant is not suitable to process this material.

The commercial waste stream will also require a new sorting facility or transport to a regional facility for processing.

### **Demand Management Plan**

The current solid waste facilities have more than ample capacity to cope with current and future solid waste tonnes from the existing sources.

If compost quantities increase, it is likely three more bays will be required. *(See section 17.5. p77)*



## 31 Acknowledgements and References

### 31.1 ACKNOWLEDGEMENTS

- Ruth Clarke, Senior Waste Management Officer, Timaru District Council.
- Brian Gallagher, Consultant, BioBiz Ltd.

### 31.2 REFERENCES

- LOS 1 operational issues are recorded in TDC file R2/22/1,
- Bin data from TPI is located in file R2/22/4,
- KPI Data from TPI is located in file R2/22/5,
- LOS 3 Monthly Missed Bins and LOS 4 Non-compliance Notices are recorded in doc #553207,
- LOS 5 Monthly tonnes disposed of to landfill is recorded in doc#47725 with annual amounts in doc#31696,
- Graphs are in doc#349937,
- Kerbside Audit 2008 doc#512534,
- Redruth Annual Monitoring Report 2007/08 doc#467087
- Capex projections from Martin Pinkham, Canterbury Waste Services

Key printed material and websites:

- Waste Minimisation Act 2008.
- Timaru District Council Waste Assessment 2012.
- Rubbish and Recycling Solid Waste Plan 2003.
- NZ Waste Strategy 2010.
- Ministry for the Environment.

## 32 Appendices

### 32.1 APPENDIX 1: WASTE ASSESSMENT MARCH 2012 EXECUTIVE SUMMARY

#### 1 EXECUTIVE SUMMARY

##### 1.1 Purpose

The Council is required by legislation to complete a Waste Assessment as part of the preliminary phase for the review and development of a Waste Management and Minimisation Plan (WMMP). The waste assessment has been prepared in accordance with the Ministry for the Environment "Waste Assessment Checklist".

##### 1.2 Legislation and Requirements for a Waste Assessment

The Waste Minimisation Act 2008 (WMA) requires Councils to review their WMMP by 1 July 2012 and thereafter every six years. A Waste Assessment as required in the WMA (s51) must be completed prior to the WMMP review. The details of s51 from the WMA are shown in appendix A.

A Waste Assessment must contain:

- a) A description of solid waste services by the Council and private business.
- b) A forecast of future demands.
- c) A statement of options to meet the demands.
- d) A statement of the Council's intended role in meeting the demands.

- e) A statement of the Council's proposals including new or replacement infrastructure.

A statement how the proposals will:

- a) Ensure public health is adequately protected.
- b) Promote effective and efficient waste management and minimisation.

The New Zealand Waste Strategy, community outcomes of the Council's Long Term Plan, economic, environmental, social and cultural aspects will also be taken into consideration in preparing the assessment.

The Medical Officer of Health, Dr Daniel Williams, has been consulted and recommendations have been taken into account.<sup>2</sup>

##### 1.3 Combined Waste Assessment

Staff from the Mackenzie, Timaru and Waimate District Councils has agreed to prepare a combined Waste Assessment. The impetus for the combined assessment is that all three Councils are part of the Canterbury Waste Joint Committee with waste historically landfilled at the Redruth Landfill. There will be common issues and options for all the Councils.

The Waste Assessment was structured to enable generic information to be collected and individual information for each Council to be

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<sup>2</sup> Refer mail id 128864.

identified in separate chapters. These chapters have been segregated and a separate document prepared for each council.

#### 1.4 Timaru Services

Transpacific Industries Ltd (TPI) are contracted until 30 June 2021 to provide solid waste services for kerbside collection, transfer station operations, composting, recyclables sorting and the operation of the Redruth landfill. The contract is extendable by 5 years should both parties agree.

##### 1.4.1 Kerbside Collection

Council provides a three bin collection service for rubbish (140 litre bin, fortnightly), recyclables (240 litre bin, fortnightly) and food/garden waste (240 litre bin weekly). As of 30 June 2011, there were 58,849 wheelie bins in use. Annual growth for allocation of bins is on average 1.5% per annum. On this basis, there should be sufficient capacity with the existing collection fleet before extra collection trucks are required.

**Table 1: Demand for Bins**

Demand for bins 2010/11	Existing Bins 2010/11	15% Growth until July 2021	Threshold before Extra Truck Required
Rubbish	19,723	22,662	21-24,000
Recycle	20,012	23,014	24-27,000
Compost	18,948	21,790	24-27,000

##### 1.4.2 Private Collectors

Thirty-seven businesses are permitted to dispose of waste directly to the Redruth Landfill. Non-permitted businesses use commercial collectors or deliver waste to the transfer station. A number of other

operators collect waste that is not disposed at the landfill, e.g. scrap metal, cardboard, plastic wrap and used clothing. As landfill disposal fees increase, there is a risk that cheaper alternative disposal options become viable resulting in waste flight from the Timaru District. Similarly, waste minimisation options may become more viable.

##### 1.4.3 Transfer Stations

The Council provides four transfer stations in the District.

**Table 2: Timaru Transfer Stations**

Location	Public Hours Week	Paying Customers		Customers per Hour Open		Total Waste Tonnes		Average Load per Customer in kg	
		09/10	10/11	09/10	10/11	09/10	10/11	09/10	10/11
Timaru	58.0*	12,146	12,871	4.0	4.2	6086	5085	501	395
Temuka	12.5	1,845* <sup>1</sup>	1690	2.8	2.6	548	326	297	192
Geraldine	10.0	1,129	1,364	2.3	2.6	625* <sup>2</sup>	295	545	216
Pleasant Pt	9.0	717	631	1.5	1.3	112	116	156	184

\*Includes landfill access hours, <sup>1</sup>No trucks dispose of waste at Temuka.

<sup>2</sup>258(trucks)

About two thirds of the site usage is customers using the drop-off at the front of the site for a range of recycling activity.

##### 1.4.4 Reduction

Council facilitates the reduction of waste mainly through increased recycling by working with businesses and utilising programmes for reduction, e.g. Target Sustainability.

#### 1.4.5 Reuse

Council enables reuse by providing for the collection of items from households, a drop-off facility at all transfer stations and the provision of a retail shop for the sale of items – “The Crows Nest”. The Council also provides a waste exchange listing service for items to be reused.

#### 1.4.6 Recycling

Materials collected for recycling from the Council kerbside collection are processed in a materials recovery facility (MRF) at Redruth. The MRF is currently operating at approximately 60% capacity. The MRF has an annex which is used by Full Circle Recycling to process commercial cardboard, paper and plastic.

#### 1.4.7 Recovery

Food and garden waste collected from the kerbside collection, transfer stations and commercial sources is processed at a composting facility at Redruth.

Table 3: Timaru Organic Waste

Timaru Food/Garden Waste Diverted		
Year	Tonnes Diverted	Annual Difference
2006/07	13,829	0%
2007/08	12,696	-8%
2008/09	13,261	4%
2009/10	13,730	4%
2010/11	14,223	4%

Council will need to closely monitor the growth of the organic waste stream as by 2015 or 2019 the compost facility will need expanding. The existing facility is designed to process 16,000 tonnes per annum

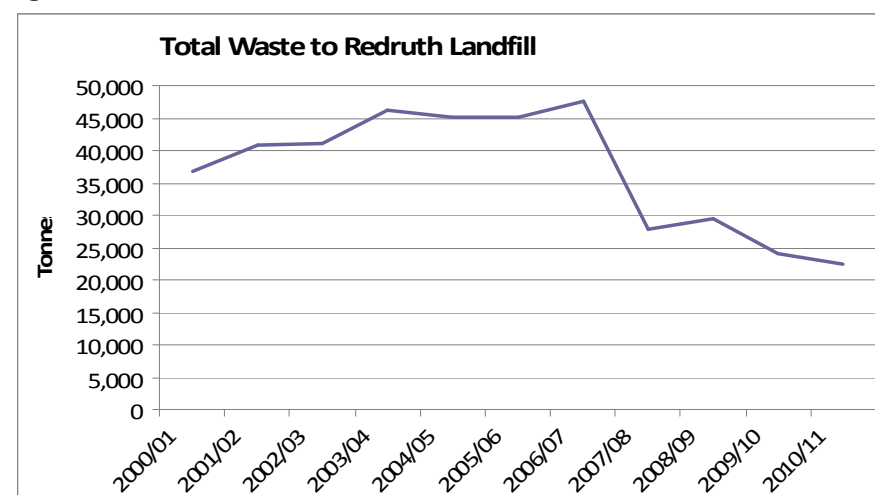
and it will be necessary to construct three new bays once this quantity is exceeded.

Table 4: Compost Site Extension

Year	Growth	Total (T)
2015	4.00%	16,027
2019	2.00%	16,052

#### 1.4.8 Disposal

Figure 1: Total Waste to Redruth Landfill



Waste disposed of into the Redruth landfill has reduced considerably since 2006. The significant issue for Council is that there are still fixed costs for the landfill and the scope to recover these costs is reduced with less waste.

As part of the resource consent conditions, Council is required to monitor the Redruth landfill and other closed landfills. To date, no

significant environmental affects have been detected from the closed landfills.

Council will face Emissions Trading Scheme (ETS) obligations from 1 January 2013. The amount should be less than the default cost of \$27.50/tonne as Council will apply for a Unique Emissions Factor (UEF). Factors in the application for a UEF are the reduced biodegradable content due to composting and recycling, and the installation of a landfill gas recovery system to capture and flare gas.

Council will need to ensure waste disposal is incorporated into emergency plans as part of the preparedness for natural events. Identification of potential disposal sites, disposal methods, waste separation and contract agreements can enable a planned recovery response compared to a possible reactive response which may follow on from consequences of disasters.

### 1.5 Waste Quantities

The following table is a guide for each District. Some waste is brought direct to the Redruth landfill from Mackenzie and Waimate and is not included in the waste quantities for the respective Councils. The higher quantity of waste for Timaru is attributed to the amount of industry in Timaru, while the Mackenzie quantity is influenced by the tourist industry.

**Table 5: Summary of Waste Quantities**

2009/10	MDC	TDC	WDC
<b>Reuse</b>	<b>0</b>	<b>218</b>	<b>0</b>
<b>Recycle</b>	<b>208</b>	<b>3933</b>	<b>470</b>
<b>Recover</b>	<b>273</b>	<b>13,730</b>	<b>93</b>
<b>Treatment</b>		<b>1</b>	<b>0</b>
<b>Total tonnes Diverted</b>	<b>481</b>	<b>17882</b>	<b>563</b>
<b>Waste Diverted kg/person</b>	<b>126</b>	<b>417</b>	<b>78</b>
<b>% diverted of total</b>	<b>33%</b>	<b>45%</b>	<b>29%</b>
<b>Residual Disposal</b>	<b>972</b>	<b>21,645</b>	<b>1,357</b>
<b>Residual kg/person</b>	<b>256</b>	<b>505</b>	<b>188</b>
<b>% landfilled of total</b>	<b>67%</b>	<b>55%</b>	<b>71%</b>
<b>Total waste tonnes</b>	<b>1,453</b>	<b>39,527</b>	<b>1,920</b>
<b>Total waste kg/person</b>	<b>382</b>	<b>922</b>	<b>266</b>
<b>2008/09 Canterbury Avg</b>	<b>789</b>	<b>789</b>	<b>789</b>
<b>Population (2006)</b>	<b>3,804</b>	<b>42,870</b>	<b>7,206</b>

Note: All figures exclude cleanfill

The residual waste per capita for the Canterbury Region in 2008/09 was 541kg/person.<sup>3</sup>

The residual waste per capita for New Zealand in 2010/11 was 575kg/person.<sup>4</sup>

<sup>3</sup> Canterbury regional waste data addendum report 2002-2009, Report: R10/52  
ISBN: 978-1-877574-27-6

<sup>4</sup> Review of the Effectiveness of the Waste Levy

## 1.6 Strategic Direction

All Councils adopted zero waste as part of a vision towards improving waste diversion from landfill. To measure progress of zero waste to landfill a baseline year needs to be established.

**Table 6: Waste Diversion to Date**

District	Baseline Tonnes		2010/11	Diversion Achieved %	Waste to Landfill %
<b>Mackenzie</b>	2007/08	1,780 <sup>1</sup>	886	51%	49%
<b>Timaru</b>	2005/06	44,113	20,475	54%	46%
<b>Waimate</b>	2007/08	2,721	1,069	61%	39%

Note1: The baseline total for Mackenzie for 2007/08 was 1,299 tonnes of waste plus estimated 480 tonnes of recyclables and organic waste added.

Timaru District Council adopted the Zero Waste to Landfill goal in 1999/2000. For the following years until the implementation of the 3-2-1-ZERO kerbside system the status quo prevailed and no other waste minimisation activity took place. The peak in waste tonnes to landfill in 2005/2006 has, therefore, been taken as the baseline.

While good initial progress has been made on waste diversion by the Councils, it will become harder and more expensive to address the remaining waste streams.

To date, Timaru has achieved 54% diversion. The reality is that zero waste to landfill will not be achievable for the next 10 year term for the Councils' Long Term Plans. The following table shows the goal in

tonnes if the target of 80% diversion is to be achieved (i.e. 20% waste to landfill).

**Table 7: 20% Waste to Landfill**

District	Baseline Tonnes		20% Waste to Landfill Target (T)	Zero Waste to Landfill Target (%)
<b>Mackenzie</b>	2007/08	1,780	356	20% (80% diverted)
<b>Timaru</b>	2005/06	44,113	8,823	20% (80% diverted)
<b>Waimate</b>	2007/08	2,721	544	20% (80% diverted)

The following table shows the additional waste that will need to be diverted from existing waste quantities being landfilled to achieve the target of 20% of waste to landfill or 80% waste diversion.

**Table 8: Waste to be Diverted to Achieve 20% Waste to Landfill**

District	Tonnes
<b>Mackenzie</b>	616
<b>Timaru</b>	11,652
<b>Waimate</b>	503

### 1.6.1 Timaru Options

The following options will be required for Timaru to reach 77% diversion of waste.

Note: Capital expenditure has been annualised. The cost of landfilling is estimated at \$100/tonne for 20,000 tonnes to landfill. In some options, 80% of the potential tonnes has been used.

**Table 9: Summary of Potential Waste Diversion Options**

Options	Tonnes diverted	% Diverted	Annualised cost	\$/T
Introduce kitchen containers to recover food waste.	Potential 1,380% 1,040T	3% 2.4%	\$250,000	\$193 \$241
Collection of soft plastics.	200T	0.5%	\$70,000	\$338
Improved enforcement of kerbside collection.	Potential 85% 680T	2% 1.6%	\$20,000 (extra 0.5 FTE)	\$24 \$30
Improved drop-off facilities at transfer stations, Collection of e-waste, tyres, polystyrene.	Potential 200 T 80% 160 T	0.5% 0.4%	\$10,000	\$50 \$63
Enforce bylaw and waste separation at transfer stations.	Potential 2,680% 2,124T	6% 4.8%	\$50,000 (extra FTE)	\$19 \$24
Enforce bylaw and waste separation at the landfill face and audits at businesses.	Potential 5,380% 4,506T	12% 10.2%	\$50,000 (extra FTE)	\$9 \$11
Timber Recovery.	Potential 4,080% 3,444T	9.1% 7.8%	\$214,000	\$63
Implement options 1 to 7 (80%)	12,155 T	28%	\$564,000	\$46
Current Diversion		49%		
Total Diversion		77%		

It is possible for the Council to reach approximately 77% of waste diverted from landfill for an annual cost of approximately \$564,000.

The 77% diversion would require a lead in time to achieve. Ultimately, it may be possible to achieve 80% diversion.

In reality, the Zero Waste to landfill goal is not achievable in the medium term. An overall target of 80% diversion needs consideration as this will require further expenditure at the same time as reducing council's income from waste to landfill. Increasing the landfill fees will reduce waste to the Redruth landfill with commercial waste most likely diverted to another landfill.

There is the option to focus only on particular waste streams, e.g. timber, and take the possible further 28% diversion in steps. Enforcement of the bylaw is the lowest cost option and this could be the first step. Council and the community will need to consider what level of service they want.

### 1.6.2 Public Consultation

In determining future waste diversion and targets, Council will need to consider community expectations of the level of service required and what the community are prepared to pay for. Community consultation can form part of this assessment or it will need to be included under the formal special consultative procedure required for the WMMP.

### 1.7 WMMP

There is some common high level strategic planning as starting points for the three Councils and this could include the following:

### **1.7.1 Common Vision**

A sustainable community that is able to reuse, recycle and recover discarded resources and minimise residual waste to landfill, while ensuring protection of human health and the environment.

### **1.7.2 Common Objectives**

- Facilitate the reduction of waste.
- Maximise the quantity of resources to be reused, recycled and recovered.
- Protect the environment.
- Protect public health.
- Provide effective and efficient services in a sustainable manner.

### **1.7.3 Targets**

Targets need to be developed for each Council for planning and performance measurement.

## **32.2 APPENDIX 2: WASTE ASSESSMENT OPTIONS SUMMARY**

Each two page spread gives more detail on the options presented in the waste assessment.





	Option	NZWS		SWP	Service status	Community Wellbeings		
		Reduce harm	Resource Efficiency			Economic	Environment	Social & cultural
	Grade	1	1	0		10	5	8
ALL ACTIVITIES 1	Lobby Central Government: facilitate product stewardship and waste reduction initiatives	√	√	AP12	Ongoing	Product stewardship may reduce costs on council	Small quantities diverted from land fill, will support clean, green image	Actual cost of some products will rise small amount, perception of good value of services, good profile for council
	Grade	0	1	1	10	10	10	1
ALL ACTIVITIES 2	Develop an asset management plan for all Solid Waste activities including kerbside collection bins and resources and all solid waste infrastructure		√	AP 3	New	Utilise existing budget. Enables planning for future replacements	Will record criteria for recycled content for new bins and end of life recycling	Will help forecast replacements to ensure all assets are maintained in a good condition

Community Outcomes						Infrastructure	Requirement Under Waste Act				Status		
C.O. 1	C.O. 2	C.O. 3	C.O. 4	C.O. 5	C.O. 6	Effect on Demand and Capacity	Waste hierarchy	Protection of Public Health	Effective and Efficient Waste Management & Minimisation	Score		Budget	Year

1		1				4	3	4	4	42			
√		√				May result in resources funded from product stewardship schemes.	Recovery	May reduce inappropriate disposal.	Will facilitate services such as product stewardship and waste reduction initiatives		Recommended	n/a	Ongoing
1				1		10	7	7	10	69			
√				√		Maintain high quality infrastructure	Infrastructure	Ensure that waste is stored and transported in a sanitary manner	Maintains or improves infrastructure to meet demand		Recommended	10,000 p.a.	2012/13 & 2013/14

	Option	NZWS		SWP	Service status	Community Wellbeings		
		Reduce harm	Resource Efficiency			Economic	Environment	Social & cultural
	Grade	1	1	1		10	10	10
COLLECTION 1	Review collection service in 2017.	√	√	WMMP & LTP	n/a	No budget implications until review considered.	n/a	n/a
	Grade	0	0	0		5	1	4
COLLECTION 2	Every 5 years, prior to review of WMMP, undertake random visual sample of bins to determine composition and help with any planning for WMMP.				New	Cost of survey low in terms of overall collection, but important for strategic direction, contamination impacts and recovery rates.	Survey may or may not indicate in more recovery.	Will inform community on exact quantities being sorted correctly/ incorrectly and what directions may be required for the future.

Community Outcomes						Infrastructure	Requirement Under Waste Act				Status		
C.O. 1	C.O. 2	C.O. 3	C.O. 4	C.O. 5	C.O. 6	Effect on Demand and Capacity	Waste hierarchy	Protection of Public Health	Effective and Efficient Waste Management & Minimisation	Score		Budget	Year

1						10	7	7	10	68			
√						Will help determine future level of service and infrastructure.	Infrastructure	Will ensure that public health is maintained.	Will help determine future level of service and infrastructure to improve upon the current level of service.		Recommended	Existing	2017
1						4	7	4	7	33			
√						Will help provide data for consideration of future collection services.	Infrastructure	Ensure that waste is correctly separated to help protect people sorting the recyclables and organic waste streams. Ensure that hazardous waste and prohibited wastes are disposed of correctly.	Will enable communication programmes to be developed with focus on improved waste minimization, along with establishing quantities for potential retrieval of landfilled materials.		Consider	\$5,000	2017

	Option	NZWS		SWP	Service status	Community Wellbeings		
		Reduce harm	Resource Efficiency			Economic	Environment	Social & cultural
	Grade	0	1	1		7	7	7
COLLECTION 3	Install public place recycling facilities in highly used areas.		√	AP1	New	Caroline Bay \$24,000 capex. \$15,000 capex each for Street/ Parks bins. Annual operating \$7,500 each, \$1,500 Caroline Bay. Provide better efficiencies in streets/parks funding.	Improved opportunity for recovery of materials.	Enables people to practice correct separation in public areas. Positive image portrayed to visitors.
	Grade	Not graded as it is a funding allocation decision rather than project						
COLLECTION 4	Investigate increasing the charge for the weekly CBD service, and implement in 2 years.				Existing	Standardises bin charges. Increases return on bins in CBD.	Reduces collection frequency for some properties.	Parity across all bin users.

Community Outcomes						Infrastructure	Requirement Under Waste Act				Status		
C.O. 1	C.O. 2	C.O. 3	C.O. 4	C.O. 5	C.O. 6	Effect on Demand and Capacity	Waste hierarchy	Protection of Public Health	Effective and Efficient Waste Management & Minimisation	Score		Budget	Year

1			1	1	1	7	7	1	7	49			
√			√	√	√	May require some new containers or modifications to existing ones. Utilise existing collection networks.	Infrastructure	Low impact on public health, as existing litter bins provide safe public place waste disposal.	Recoverable materials will be recycled or composted.		Consider	to be confirmed after project options are considered	2013/14 +3 years
						May reduce demand	Infrastructure		It is more efficient for larger quantities to be collected fortnightly where possible		Consider and implement from 2015/16	n/a	2013/14

	Option	NZWS		SWP	Service status	Community Wellbeings		
		Reduce harm	Resource Efficiency			Economic	Environment	Social & cultural
	Grade	1	1	1		10	10	10
TRANSFER STATION 1	Investigate options for receipt of smaller quantities of polystyrene with payment.	√	√	AP2	Existing	High cost per tonne.	Improved diversion. Low □inim but bulky item consumes landfill airspace.	Scope to improve recycling of materials.
	Grade	1	1	1		7	7	7
TRANSFER STATION 2	Tyres: Determine methodology for collection, storage and end use in consultation with Ecan	√	√	AP2	New	User pay fee for waste □inimization option.	Improved diversion.	Reuse solutions for farms reaching saturation point, will provide a solution for community.



Community Outcomes						Infrastructure	Requirement Under Waste Act				Status		
C.O. 1	C.O. 2	C.O. 3	C.O. 4	C.O. 5	C.O. 6	Effect on Demand and Capacity	Waste hierarchy	Protection of Public Health	Effective and Efficient Waste Management & Minimisation	Score		Budget	Year

1						10	0	1	10	55			
√						needs cash facility, could be handled with reuse shop if relocated and shop hours extended	Recovery		Will provide central collection point, may fit with reuse shop activity.		Consider	n/a	2012/13
1				1		7	7	4	7	51			
√				√		Will require storage containers and transport.	Recovery	May reduce burning of waste and mosquito breeding issues from on-land storage.	Will provide central collection point.		Recommended	n/a	2012/13

	Option	NZWS		SWP	Service status	Community Wellbeings		
		Reduce harm	Resource Efficiency			Economic	Environment	Social & cultural
	Grade	1	1	1		5	8	9
TRANSFER STATION 3	Develop Resource Recovery Park at Redruth transfer station.	√	√	AP2	New	Solutions and cost need to be confirmed. Will reduce disposal costs for ratepayers.	Improved diversion. Minimises waste to landfill	Enables people to separate materials. Provides interface for educating customers.
	Grade	1	1	1		5	8	9
TRANSFER STATION 4	Investigate and implement waste sorting at Redruth transfer station.	√	√	AP2	New	Solutions and cost need to be confirmed.	Improved diversion.	Enables people to separate materials and reduce disposal fees; minimises waste to landfill

Community Outcomes						Infrastructure	Requirement Under Waste Act				Status		
C.O. 1	C.O. 2	C.O. 3	C.O. 4	C.O. 5	C.O. 6	Effect on Demand and Capacity	Waste hierarchy	Protection of Public Health	Effective and Efficient Waste Management & Minimisation	Score		Budget	Year

1						7	7	4	7	51			
√						Will require sort line, storage containers and transport.	Recovery	May reduce inappropriate disposal.	Will provide central service area. Can be combined with relocation of the Crow's Nest.		Consider	Confirm	
1						7	7	4	7	51			
√						Will require sort line, storage containers and transport.	Recovery	May reduce inappropriate disposal.	Will provide central service area to enable waste minimisation and reduce disposal costs		Consider	Confirm	

	Option	NZWS		SWP	Service status	Community Wellbeings		
		Reduce harm	Resource Efficiency			Economic	Environment	Social & cultural
	Grade			1		10	7	7
REDUCE 1	Increase SWU staff to 3.5 FTE(increase of 0.25 FTE) to focus on businesses with a goal of introducing waste reduction at source initiatives.			AP11	Existing	Easy way to improve services. Waste issues are mitigated if the quantity of waste can be lessened: businesses co-operative	Increased demand particularly from business community	Increased TDC involvement in regional projects: Ebook, Target Sustainability
	Grade	1	1	1		4	4	4
REDUCE 2	Fund Sustainable Living Programme	√	√	AP 11	New	Minimal, saves in long term as community better educated	Effect on households participating	Good profile for Council.
	Grade	1	1	1		10	10	10
REUSE 1	Stabilise Crow's Nest funding at \$60,000 per annum (flat)		√	AP5	Existing	Long term commitment in funding to agreed level	Reduces waste to landfill	provides niche market, high customer profile

Community Outcomes						Infrastructure	Requirement Under Waste Act				Status		
C.O. 1	C.O. 2	C.O. 3	C.O. 4	C.O. 5	C.O. 6	Effect on Demand and Capacity	Waste hierarchy	Protection of Public Health	Effective and Efficient Waste Management & Minimisation	Score		Budget	Year

1						4	7	7	7	51			
√						No effect on infrastructure.	Recovery	Provide information to educate community on issues with waste.	3 FTE long term. O.5 FTE as 3 year contract renewable.		Consider	50,000	2012/13 on.
1						4	6	10	4	40			
√						N/A	Recovery	Little impact on health.	Effective programme run by many Councils		Consider	\$1,500	2012/13
1	1					10	5	10	10	70			
√	√					Existing	Reuse	Little impact on health.	Establishes platform for initiating other ventures.		Recommended	\$60000 existing	per annum

	Option	NZWS		SWP	Service status	Community Wellbeings		
		Reduce harm	Resource Efficiency			Economic	Environment	Social & cultural
	Grade	1	1	0		10	4	7
RECYCLE1	Encourage recyclables from other locations. Ongoing need to communicate with adjoining local authorities to consider options, costs and benefits on a longer term basis. Strategic review at 2019.	√	√		Existing New	Increased minim will help with economy of scale.	Can process recyclables instead of landfilling.	May be resistance from other locations to sort materials in TDC MRF
	Grade	1	1	1		10	10	9
RECOVER 1	Develop maturation area for compost	√	√	AP4	Existing	Will enable greater turnover of compost sales	Degrades clopyralid faster.	Can continue to meet demand for compost

Community Outcomes						Infrastructure	Requirement Under Waste Act				Status		
C.O. 1	C.O. 2	C.O. 3	C.O. 4	C.O. 5	C.O. 6	Effect on Demand and Capacity	Waste hierarchy	Protection of Public Health	Effective and Efficient Waste Management & Minimisation	Score		Budget	Year

1	1		1			7	7	7	7	54			
√	√		√			Sufficient capacity available at the MRF.	Recovery	Current system protects public health	Enables options to be considered		Consider	n/a	ongoing
1	1					7	3	7	7	58			
√						will require maturation pad	Recovery	Minimises stockpiles and risk of legionella in compost	Will enable more organic waste to be processed faster		Recommended	\$20,000 p.a. (existing)	2013/14 on

	Option	NZWS		SWP	Service status	Community Wellbeings		
		Reduce harm	Resource Efficiency			Economic	Environment	Social & cultural
	Grade	1	1	1		10	10	9
RECOVER 2	Develop new pads when <input type="checkbox"/> inim exceed 16,000 tonnes p.a.	√	√	AP4	Expanded	Will need to provide new bays to meet demand.	Good reduction of waste to landfill, less greenhouse being generated, lower ETS requirements, closes the loop.	Organic waste being composted, can continue to meet demand to compost specialist waste streams.
	Grade	1	1	3		7	9	7
RECOVER 3	Investigate and implement options for timber recovery.	√	√	AP 2 AP 3 AP 4	New		Improved diversion of waste from landfill. Will help reduce landfill gas and ETS requirements.	Will enable good support if end use for hog fuel achieved, e.g. Maori Park Pool. Reduced rates for users.
	Grade	1	1	3		7	9	7
RECOVER 4	Investigate and implement options for special waste composting.	√	√	AP4	New	Simple option may exist to process, will reduce ETS liability	Improved diversion of waste from landfill. Will help reduce landfill gas.	Will provide alternative cover for use at landfill



Community Outcomes						Infrastructure	Requirement Under Waste Act				Status		
C.O. 1	C.O. 2	C.O. 3	C.O. 4	C.O. 5	C.O. 6	Effect on Demand and Capacity	Waste hierarchy	Protection of Public Health	Effective and Efficient Waste Management & Minimisation	Score		Budget	Year

1	1					7	3	7	7	58			
√						Will require three new pads when incoming product exceeds 16,000 tonnes.	Recovery	Composting reduces greenhouse gas generation.	Will enable more organic waste to be diverted from landfill. Monitor actual tonnes and plan accordingly		Recommended	\$250,00	2016 estimated-subject to tonnages
1						7	3	4	7	50			
√						Will require storage areas and transport. Existing shredding capacity available at Redruth.	Recovery	Recovery would reduce emissions from landfill. May reduce burning of waste.	Enables greater diversion of waste		Consider	\$1-1.5 million capex, \$60-\$80,000 opex for additional staffing	2012/13 report 2013/14 implement
1				1		7	3	4	7	51			
√				√		Will require remote site and infrastructure for processing.	Recovery	Recovery would reduce emissions from landfill.	Enables greater diversion of waste		Consider	5,000	2012/13 report

	Option	NZWS		SWP	Service status	Community Wellbeings		
		Reduce harm	Resource Efficiency			Economic	Environment	Social & cultural
	Grade	1	1	0		10	10	10
TREATMENT 1	Investigate the implementation of a small charge for domestic hazardous waste drop off	√	√	AP 9	Existing	Hazwaste disposal is expensive, minimization of recovering some costs	Prevents hazardous waste being disposed of into the environment. Cost may be disincentive	Provides service to community wanting to dispose of potentially harmful waste.
	Grade	1	1	1		10	10	10
DISPOSE 1	Review regularly landfill viability.	√	√	AP7	New	Looking for cost effective option. Confirm base rate for development and options for acceptable recovery of costs.	A landfill is required to safely dispose of waste.	Community will not want disposal fees to skyrocket.
	Grade	1	1	1		10	8	10
DISPOSE 2	Ensure waste disposal options are included in emergency plans.	√	√	AP7		Resource consent applications may be required.	Enable good planning to minimise environmental effects.	Response and decision making will be quicker promoting good image to the public.

Community Outcomes						Infrastructure	Requirement Under Waste Act				Status		
C.O. 1	C.O. 2	C.O. 3	C.O. 4	C.O. 5	C.O. 6	Effect on Demand and Capacity	Waste hierarchy	Protection of Public Health	Effective and Efficient Waste Management & Minimisation	Score		Budget	Year

1				1	1	4	2	4	4	49			
√				√	√	Demand may decrease if charges implemented	Recovery	Ensure safe collection treatment and disposal of hazardous waste.	May reduce quantities received if charge imposed, but does place cost on user		Consider	n/a	n/a
1				1		10	1	7	10	63			
√				√		Consider waste quantities, fees and possible acceptance of waste from other areas.	Recovery	Council will ensure any residual waste is disposed of at Redruth <u>or another location if this is more viable.</u>	Council will investigate what is the most cost effective disposal option.		Recommended		ongoing
1				1		7	1	4	7	52			
√				√		Ensure there is capacity to store waste until it can be handled appropriately.	Recovery	Planning will take into consideration public health in the event of an emergency.	Planning will help with good management of waste during an emergency situation.		Consider	20,000	2012/13

	Option	NZWS		SWP	Service status	Community Wellbeings		
		Reduce harm	Resource Efficiency			Economic	Environment	Social & cultural
	Grade	1		1		10	8	10
DISPOSE 3	Complete capping of closed landfills	√		AP7	existing	Will reduce monitoring costs long term	Comply with resource consent and minimise environmental effects.	Enhance environmental compliance profile of council
	Grade	1		1		10	8	10
DISPOSE 4	Allocate dedicated funding for after-care costs	√		AP7	existing	costs need to be charged on waste disposal as it occurs. Increases costs of waste disposal.	Landfill need to be managed post-closure to protect environment.	Funding now is sustainable, otherwise funding will be left to future generations not using the service.

Community Outcomes						Infrastructure	Requirement Under Waste Act				Status		
C.O. 1	C.O. 2	C.O. 3	C.O. 4	C.O. 5	C.O. 6	Effect on Demand and Capacity	Waste hierarchy	Protection of Public Health	Effective and Efficient Waste Management & Minimisation	Score		Budget	Year

1			1	1		7	1	4	7	52			
√			√	√		Will complete works and minimise long term maintenance costs	Recovery	Minimises creation of leachate from closed landfills	Cap one site per year to complete programme.		Recommended	\$20,000	2012/13 to 2019/20
1			1	1		7	1	7	7	55			
√			√	√		Ensures long term maintenance	Infrastructure	Good maintenance protects stormwater and minimises leachate.	Apportions costs to users		Recommended	\$5 per tonne of waste	2013 on

Document Information	
<b>Solid Waste Management and Minimisation Plan (incorporating Activity Management Plan)</b>	
<b>Unit:</b>	<b>Solid Waste</b>
<b>Version</b>	1 July 2012
<b>Document Approved by</b>	Ashley Harper
<b>Author:</b>	Ruth Clarke/Brian Gallagher

Revision and Amendment History			
Version	Date	Author	Description
1	15 /12/11	Brian Gallagher	Draft for comment
2	9/03/2012	Ruth Clarke	Final Draft
3	19/06/2012	Ruth Clarke	Final