



South Canterbury Councils

Waste Assessment

September 2023

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1 Introduction

Territorial authorities are legally required to conduct a Waste Assessment and consider it in the review and preparation of their Waste Management and Minimisation Plans (WMMP). The Waste Management Act 2008 (WMA) (s44) also requires that a Waste Assessment be notified with the draft WMMP for public consultation. This process is required every six years. This Waste Assessment is a joint assessment prepared for Timaru District Council (TDC), Mackenzie District Council (MDC) and Waimate District Council (WDC). The three councils are collectively referred to as the South Canterbury Councils (Councils) in this document.

The Councils each have their own WMMP which was prepared in 2018. This joint Waste Assessment will inform each council's review of its WMMP, which will in turn inform the development of each council's Long-Term Plan 2024-34. This Waste Assessment was prepared as prescribed in s51 of the WMA and provide details of:

- existing waste services and facilities provided in South Canterbury
- waste quantities, composition, and flows
- identified waste issues
- forecast future demand
- the Councils' vision, goals, objectives and targets for waste management and minimisation
- an assessment of options to address the identified waste issues (a statement of proposals) for each district.

Figure 1 illustrates the source and destination of waste and diverted material in South Canterbury, both Council and private materials.

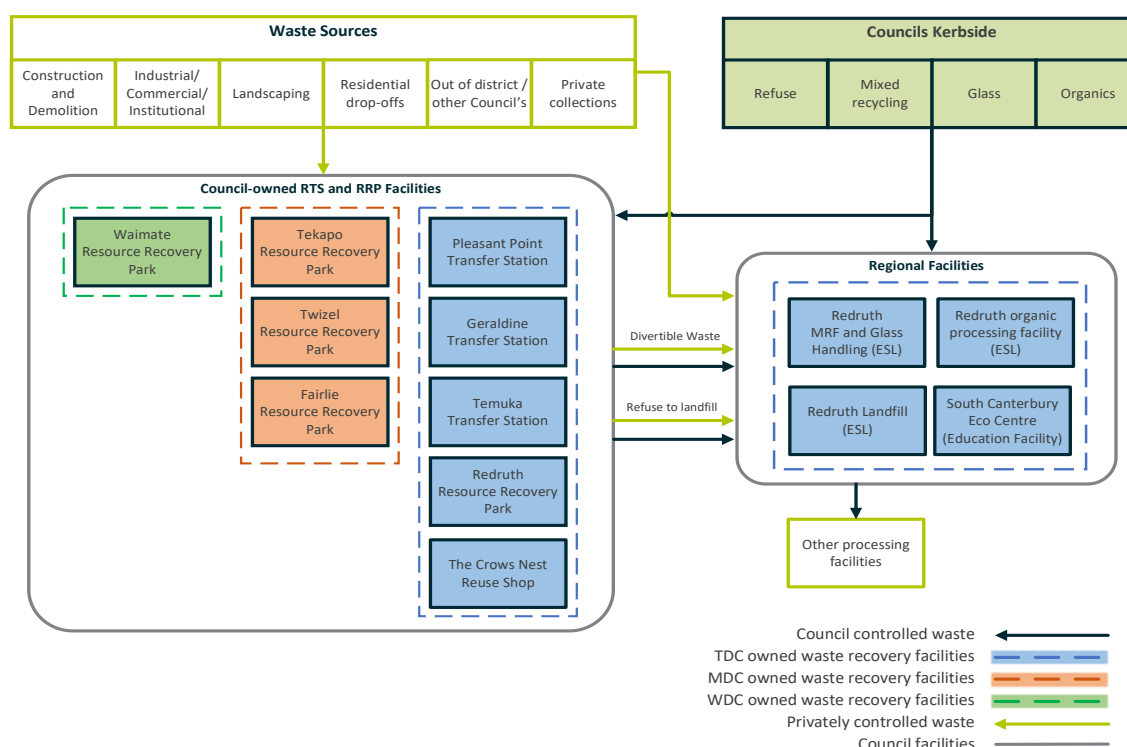


Figure 1 Source and destination of waste and diverted materials in South Canterbury

1.1 Document and accuracy

The tonnage information in this document was prepared using data gathered from a variety of sources including each council's weighbridge data, data gathered by councils' current waste services provider EnviroWaste Services Ltd (EnviroNZ), the most recent Solid Waste Analysis Protocol (SWAP) report of each council and the Councils' 2018 WMMPs.

The data presented in this document does not represent all the waste and diverted materials generated in each district. The amount of waste and diverted material can only be determined from the data managed by the Councils and their waste services provider. No data was available from the private and commercial sector.

It is acknowledged a Waste Assessment is only a snapshot in time of the data collected for the purposes of future waste planning and preparation of the WMMP. Every effort has been made to provide a complete and accurate assessment. In some cases, data has been estimated or there are data gaps such as the volume and composition of privately collected rubbish. Details regarding any limiting factors in preparing the Waste Assessment that are deemed to have materially impacted on the completeness or accuracy of the data, forecasts, estimates or options assessment have been noted where appropriate.

The information contained in this Waste Assessment was considered appropriate when giving regard to:

- the significance of the information
- the costs of, and difficulty in, obtaining the information
- the extent of Councils' resources
- the possibility Councils may be directed under the Health Act 1956 to provide the services referred to in that Act.

1.2 Acronyms

Key Term/ Acronym	Definition
AIP	The government's Action and Investment Plan
CERF	Climate Emergency Response Fund
Councils	South Canterbury Councils covering Timaru District Council, Mackenzie District Council and Waimate District Council
CRS	Container Return Scheme
ETS	Emissions Trading Scheme
LGA	Local Government Act
LTP	Long Term Plan
MDC	Mackenzie District Council
MfE	The Ministry for the Environment
MRF	Material Recovery Facility
NES	National Environmental Standards
NZWS	New Zealand Waste Strategy
RMA	Resource Management Act 1991
RRP	Resource Recovery Park
RTS	Refuse Transfer Station

Key Term/ Acronym	Definition
SWAP	Solid Waste Analysis Protocol (SWAP). Ministry for the Environment-led baseline programme to provide solid waste composition information.
TA	Territorial Authorities. Defined under the Local Government Act 2002 as a city or district council
TDC	Timaru District Council
WA	A Waste Assessment as defined by Section 51 of the Waste Minimisation Act 2008.
WDC	Waimate District Council
WMA	Waste Minimisation Act 2008
WMF	Waste Minimisation Fund
WMMP	A Waste Management and Minimisation Plan as defined in Section 43 of the Waste Minimisation Act 2008

2 Legislative and Strategic Context

This section contains a short summary of the legislative and strategic context within which the South Canterbury Councils will develop their Waste Assessment and WMMP.

2.1 Key legislation

The legal framework for waste management and minimisation in New Zealand is found in the combination of several Acts of Parliament. These Acts provide the legislative imperative and tools to support progress toward the high-level direction outlined in the NZWS. Therefore, careful attention is given to these in developing the Waste Assessment. The Acts that drive waste management and minimisation planning are:

- Waste Minimisation Act 2008 (WMA)
- Climate Change Response Act 2002
- Climate Change Response (Emissions Trading Reform) Amendment Act 2020 that updates the NZ Emissions Trading Scheme
- The Climate Change Response (Zero Carbon) Amendment Act 2019
- Local Government Act 2002
- Resource Management Act 1991 (RMA, as well as District and Regional Plans and designations and consents)
- Hazardous Substances and New Organisms Act 1996
- Health Act 1956
- Litter Act 1979
- Health and Safety at Work Act 2015

It is noted that the RMA, WMA, and Litter Act 1979 are currently being revised or replaced with new legislation.

Appendix B provides links to the primary legislation for further information.

2.2 New Zealand Waste Strategy

Waste management and minimisation in New Zealand is underpinned by the Government's New Zealand Waste Strategy 2023 (NZWS). The NZWS sets out the long-term policy priorities for waste management and minimisation and has a vision for 2050:

By 2050, New Zealand is a low-emissions, low-waste circular economy.
We cherish our inseparable connection with the natural environment and look after the planet's finite resources with care and responsibility.

2.2.1 Linear and circular economies

The following from the NZWS showing the difference between linear and circular economy.

Taking natural resources, making them into something, using and then disposing of it – is referred to as a 'linear economy'.

In contrast, a 'circular economy' is a system where extracted materials are used and reused for as long as possible. For technical or synthetic materials, the ideal scenario is that they are reused forever. Biological (organic) materials will eventually be returned to the soil to enrich it (see Figure 2).

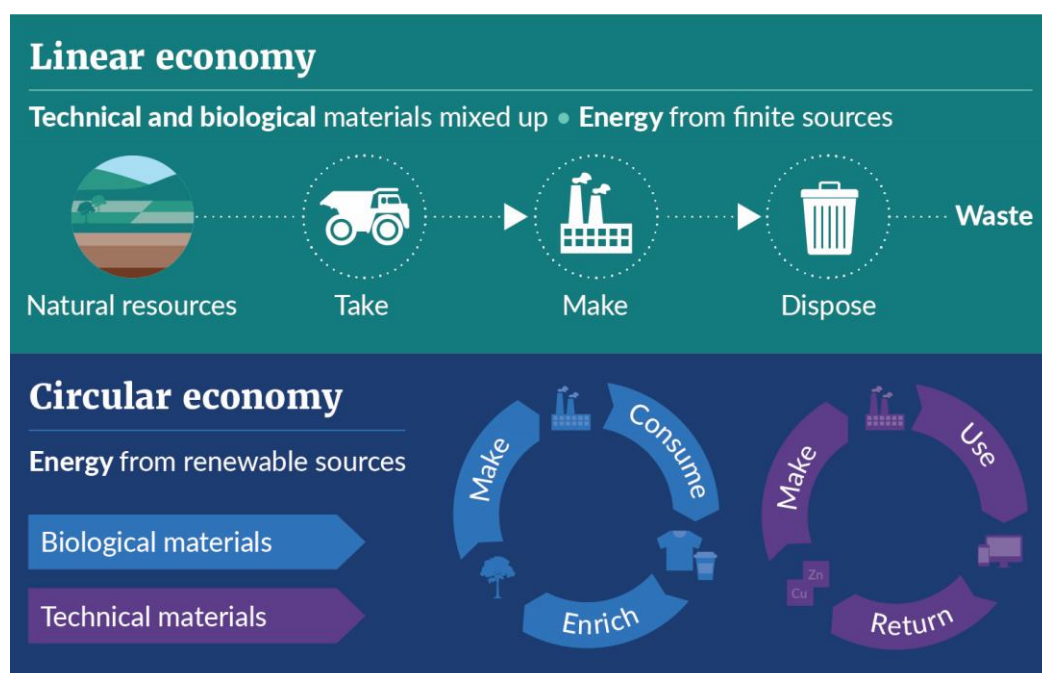


Figure 2 Characteristics of linear and circular economies

The Ellen MacArthur Foundation has led international thinking on the circular economy since it was created in 2010. This is the Foundation's description of the circular economy:

The circular economy is based on three principles, driven by design:

- Eliminate waste and pollution
- Circulate products and materials (at their highest value)
- Regenerate nature.

It is underpinned by a transition to renewable energy and materials. A circular economy decouples economic activity from the consumption of finite resources. It is a resilient system that is good for business, people and the environment. (Ellen MacArthur Foundation, Circular Economy Introduction: What is a Circular Economy? Retrieved from <https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview> (9 November 2022)).

Committing Aotearoa New Zealand to a circular economy means we stay in step with many of our major trading partners. We have already committed to developing a full circular economy and bioeconomy strategy in the Emissions Reduction Plan. This waste strategy is an essential first step. It builds on internationally recognised circular economy principles and adapts them for our context.

2.2.2 National targets

The NZWS sets three national targets to be achieved by 2030 (see Figure 3).

- Waste generation: reduce the amount of material entering the waste management system, by 10 per cent per person.
- Waste disposal: reduce the amount of material that needs final disposal, by 30 per cent per person.
- Waste emissions: reduce the biogenic methane emissions from waste, by at least 30 per cent.

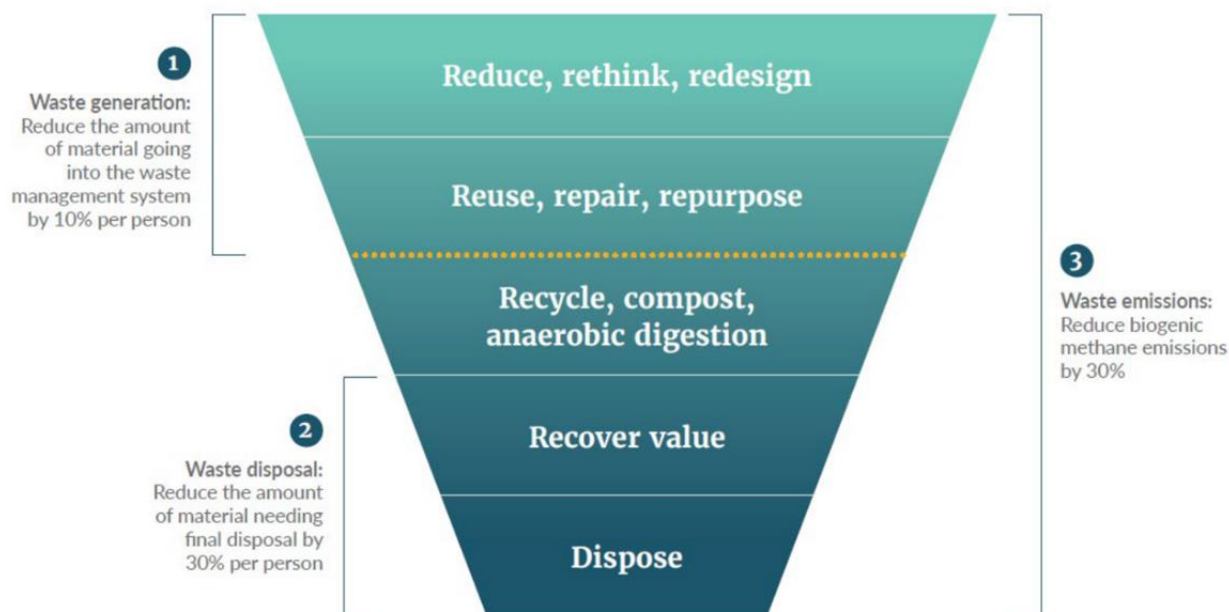


Figure 3 Waste hierarchy with targets

2.2.3 National goals

The strategy has the following eight goals:

- 1. Systems:**
The Strategic planning, regulatory, investment and engagement systems are in place and operating to drive and support change.
- 2. Infrastructure:**
We have a comprehensive national network of facilities supporting the collection and circular management of products and materials.

3. **Responsibility and accountability:**

We all take responsibility for how we produce, manage and dispose of things, and are accountable for our actions and their consequences.

4. **Using less:**

We use fewer products and materials, and using them for longer, by making them more durable, and repairing, reusing, sharing and repurposing them.

5. **Resource recovery systems:**

Resource recovery systems are operating effectively for core materials and across all regions.

6. **Recovering value:**

We look for ways to recover any remaining value from residual waste, sustainably and without increasing emissions, before final disposal.

7. **Emissions:**

Emissions from waste are reducing in line with our domestic and international commitments.

8. **Contaminated land:**

Contaminated land is sustainably managed and remediated, to reduce waste and emissions and enhance the environment.

2.2.4 Local government actions

The NZWS includes the following actions for local government:

- Get involved in implementing the NZWS and the process to develop an action and investment plan (AIP). Use the NZWS as the starting point for their next WMMP.
- Look for opportunities to work with other councils on new, or expanded, facilities and services that will contribute to a national network for circular management of resources.
- Support local community groups and non-governmental organisations with their initiatives to reduce waste (such as the Zero Waste Network and their commercial arm [Localised](#)).
- Link with national behaviour change programmes to support and expand the reach of your local activity.
- Make sure that planning and consenting processes take account of the need for waste management infrastructure and services.
- Plan and resource the work needed to identify and manage vulnerable landfills and other contaminated sites.

Note that councils will need to align their next WMMPs with the NZWS. Once the AIP is developed, they will also need to align it. As such, the AIP will inform later WMMP reviews, e.g. 2030 for the South Canterbury Councils. In the meantime, the government's early investment signals through the Waste Minimisation Fund (WMF) take priority.

2.3 National initiatives

Many waste minimisation initiatives are more suitably implemented at a national level. Work here is needed with the national bodies, such as WasteMINZ and MfE, to encourage ongoing support for and the implementation of national waste minimisation activities through a coordinated advocacy approach to government and industry. National initiatives include:

- Development of the government's first AIP 2024-2028.

- Government investment in diversion infrastructure via the WMF Fund and Climate Emergency Response Fund (CERF). The current funding round focuses on organic waste diversion e.g. infrastructure for food waste collection for residents and businesses, processing facilities for food waste and other organics, sorting of construction and demolition (C&D) waste with a focus on timber.
- Standardisation of the kerbside collection system including:
 - Standardised list of materials collected
 - Introduction of kerbside organics and recycling in urban areas by 2030
 - Meeting a minimum diversion target of 50% by 2030.
- Establishment of a Container Return Scheme (CRS) for beverage containers.
- Banning of specific grades of plastics for packaging and some single-use plastics.
- Introduction of priority product stewardship schemes e.g. tyres, agrichemicals, e-waste, plastics packaging.
- Ongoing implementation of increases to the Waste Disposal Levy and Emissions Trading Scheme costs, as well as expansion of the Levy application to Class 2-4 Landfills, (e.g. construction and demolition waste landfills, and managed fill and clean fill sites).
- Introduction of the transfer station reporting using an agreed National Waste Data Framework.

2.4 South Canterbury Councils strategic plans and regulations

In addition to national legislation, strategies, plans and initiatives, there are local strategies, plans and regulations that also govern direction on waste management and minimisation in South Canterbury.

The South Canterbury Councils are members of the Canterbury Waste Joint Committee which reviews and implements regional waste minimisation strategies and determines what regional infrastructure is required to support waste diversion across the region. Contestable funding is also available for projects that promote Waste Minimisation, Infrastructure Development and Support for Behaviour Change initiatives.

The Councils are about to prepare their 2024-2034 LTPs, which will be informed by their WMMPs. Extracts from the Councils 2021-2031 LTPs are provided below as an indication of their existing strategic direction on waste.

2.4.1 TDC Long Term Plan

TDC's vision within its Long Term Plan 2021-2031 is '*Where people, place and business prosper within a healthy, adaptable and regenerative environment*'. It includes the following community wellbeing outcomes:

- Connected Citizens
- Enhanced Lifestyle
- Sustainable Environment
- Diverse Economy
- Resilient Infrastructure

In relation to creating a sustainable environment, it has the following focus areas:

- Kaitiakitanga – We will foster a strong connection between our people and the environment.
- Low Carbon and Energy – We will promote and support low-carbon, low-energy practices.

- Minimise Waste – We will lead and promote waste minimisation.
- Clean Environment – We will prioritise sustainable land and water use to help regenerate our environment.
- Encourage Biodiversity – We will support practices, partnerships and policies to protect and regenerate our native flora and fauna.

The waste minimisation activity contributes to TDC's vision by:

- Encouraging waste minimisation and better waste management practices to reduce the impact on public health, and the amount of waste going to landfill, which results in a reduction in greenhouse gas emissions, composting of green waste and food waste which eventually goes back onto the land to improve soil structure, and reusing waste materials which can lower the demand for raw materials.
- Collection and appropriate disposal of waste reduces the potential for disease and vermin issues, and degradation of the environment (land and water).
- Managing waste locally to reduce financial and environmental cost of transporting waste out of district for disposal.
- Landscaping of facilities and closed landfill areas provides enhanced amenity areas (e.g. Saltwater Creek walkway) and recreational venues.

2.4.2 MDC Long Term Plan

MDC's vision within its Long Term Plan 2021-2031 is *'To empower our communities and treasure our environment'*. It includes the following community outcomes:

- A treasured environment
- Resilient, successful communities
- Strong and innovative economy
- Embrace heritage and diversity

Council seeks to provide efficient waste management services and divert as much solid waste from landfill as possible by encouraging recycling and creating more recycling opportunities. The waste management and minimisation activity contributes to the following community outcomes:

- A treasured environment – Minimising the amount of waste in landfills and managing waste more efficiently reduces the impact of waste on the environment.
- Resilient, successful communities – Providing the community with recycling opportunities, and kerbside collection services keeps the community clean and safe.
- Strong and innovative economy – Promoting and educating the community and businesses around waste minimisation and recycling can reduce costs associated with landfill. Clean streets also allow businesses to thrive.

2.4.3 WDC Long Term Plan

WDC's vision within its Long Term Plan 2021-2031 is *'Leading our communities towards a diverse, thriving and sustainable district'*. It includes the following community outcomes:

- Thriving communities
- Safe & healthy people

- Sustainable district & environment
- Active, diverse, supportive community

Waste management is necessary for the health and wellbeing of the community and environment. Council has identified the following challenges within the waste management activity:

- The reduction of waste and waste to landfill
- Improved recycling and recovery
- Further encouragement to reduce and reuse.

2.4.4 Solid Waste Bylaw

The WMA requires councils to review their waste bylaws at least every ten years. Waste-related bylaws must not be inconsistent with a council's WMMP which is reviewed every six years. With a review of the WMMP in 2024, the Councils must ensure their existing waste bylaws remain fit for purpose. The three Councils' waste bylaws were last reviewed in 2018 and 2021 following the award of their new waste contracts and new kerbside collection services commencing in Waimate and Mackenzie. Following the review of the WMMP, the waste bylaws will be checked for consistency. Changes to the WMA may also require waste bylaws to be updated once the new legislation is passed.

2.4.5 Regulatory functions

In addition to waste facility assets and the provision of services, Councils also have responsibilities and powers as a regulator and statutory obligations placed upon them by the WMA.

Councils operate in the role of regulator with respect to:

- management of litter and illegal dumping under the Litter Act 1979
- trade waste requirements
- nuisance-related bylaws.

Targeted education programmes are generally more effective than enforcement for changing the behaviour of residents and businesses. However, it is acknowledged that enforcement actions would provide a backup when other avenues have been exhausted.

Making it easy for residents and businesses to do the right thing can be enhanced through the provision of fit for purpose services and facilities at accessible locations. Clear messaging, signage and directions are also instrumental in changing behaviours and encouraging residents and businesses in South Canterbury to minimise waste to landfill.

The management and enforcement of the Litter Act (including illegal dumping) for Timaru District Council is the responsibility of the roading team and regulatory team. For Mackenzie and Waimate District Councils this is primarily the regulatory team.

3 Existing Facilities and Services

This section includes a summary of information regarding waste management and minimisation services and facilities provided in South Canterbury. This includes TDC, MDC and WDC services as well as private and commercial services, where known and applicable.

3.1 Council provided facilities and services

From 1 July 2021 for TDC and WDC, and 1 October 2021 for MDC, EnviroNZ was contracted to provide kerbside collection and resource recovery park (RRP) and transfer station operations for all three councils. In addition, EnviroNZ now operate TDC's Redruth resource recovery facilities and landfill, which are used by all three councils. The Redruth facility includes a Material Recovery Facility (MRF) for sorting recyclables, a glass handling facility, and a composting facility for food and green waste processing.

The Crows Nest reuse shop and education centre is operated by the Sustainable South Canterbury Trust. They also provide a pick-up service for bulky reusable household items.

The Councils RRP and transfer stations collect a range of materials (as per each Councils website):

- Recyclables
- Reusable items drop-off
- Whiteware drop-off
- E-waste (TV/Monitors, etc) drop-off
- End of life tyre drop-off
- Metal recovery (at Timaru Metal Recyclers)
- Battery Stations (also at some supermarkets)
- Textile Recycling Stations (for WDC, Clothing bins also at other locations)
- Waste Oil drop-off
- Motor Battery Services drop-off
- Domestic volumes of some hazardous chemicals.

The Councils have other arrangements or contracts in place for the management of illegal dumping, litter, and public litter bin emptying.

The services provided by the South Canterbury Councils are listed below.

Table 1 Council provided facilities and services

Service Type	TDC	MDC	WDC
Kerbside Collection	Residential fortnightly kerbside collection of refuse Residential weekly kerbside collection of organics (food and green waste) Residential fortnightly kerbside collection of mixed recycling Residential fortnightly kerbside collection of glass in TDC, weekly in MDC and WDC (including some businesses and rural residential where the Council service meets their needs).		
Transfer stations & RRP	Pleasant Point transfer station Geraldine transfer station Temuka transfer station Redruth RRP	Twizel RRP Fairlie RRP Tekapo RRP	Waimate RRP
Public Place Bins Servicing	30 sets of public place bins. Special event bins are provided as required. Other town centre and parks bins are also provided by other TDC departments.	11 sets of public place bins, 8 single rubbish bins and 4 dog dropping bins. Special event bins are provided as required. Other town centre bins are provided.	16 sets of public place bins; 20 rubbish, 2 recycling, 2 glass. Special event bins are provided as required. Other town centre and parks bins are provided.
Other Operations	Redruth facilities including landfill, hardfill and cleanfill	None.	10 rural recycling stations (located within road reserve or

Service Type	TDC	MDC	WDC
	areas, MRF, compost facility, glass handling facility, the Crows Nest reuse shop, and Eco Centre education centre.		carparks).
Class 1 landfills	Redruth Landfill.	None.	None.
Class 5 landfills	Hardfill and cleanfill areas at Redruth.	Twizel cleanfill site Fairlie cleanfill site Tekapo cleanfill site.	Waimate cleanfill site, 39 MacNamara Rd, adjacent to RRP.
Closed landfill management (full list Appendix C)	34 closed landfill sites.	6 closed landfill sites.	8 closed landfill sites.
Education	Waste minimisation education and behaviour change programmes (funded through rates and Waste Levy funds) provided by two EnviroNZ educators		

The TDC Peel Forest Closed Landfill on the banks of the river has been subject to erosion. There is a significant capital works project underway to remediate this closed landfill. Remedial work is underway to prevent further erosion to the Rangitata River at Peel Forest Landfill. Some waste from the site is being removed and is being transferred to Redruth Landfill.

3.2 Non-council facilities and services

In addition to the kerbside services provided by Councils, private operators such as EnviroNZ, Waste Management, Garbo Rubbish Removals, WasteCo, and Waste Away also offer user-pays kerbside refuse, recycling, and green waste collections to urban households. The Department of Conservation also provide waste services within the Aoraki Mount Cook National Park. The extent of households that use private collections is not known, but it is expected to be minor given the Councils provide a rate funded kerbside service.

Several commercial operators offer gantry skip bin services to householders for the occasional disposal of larger quantities of waste. Different sizes of bins are available, with specific bins being available for dense materials such as hard fill and soil.

Commercial waste operators provide waste and recycling services for most businesses in South Canterbury. Depending on the volume of waste generated, wheelie bins, gantry bins, and front-loader bins are available. Some businesses transport their own waste and recycling to one of the Councils' facilities using their own transport equipment.

In Mackenzie District, as the neighbouring Waitaki District Council does not provide a council kerbside collection service, some households and businesses use the Mackenzie District Transfer Station facilities. The extent of out of district waste is unknown as it's not able to be separately identified.

The South Canterbury Councils and private collectors predominantly use the Redruth facilities for processing and disposal of material. Some commercial waste is transported to resource recovery and disposal facilities outside South Canterbury. There are other diverted processing facilities in South Canterbury that are also available. For example, some recyclables are transported to EcoCentral in Christchurch, and TDC provide a scrap metal yard at Timaru Metal Recyclers, Redruth St, Timaru.

End markets for materials sorted and processed at Redruth are all privately owned:

- Glass is transported to Visy's glass furnace in Auckland, except for MDC glass from Twizel and Tekapo which goes to Road Metals in Twizel.

- Flat (proposed), and window glass is transported to 5R in Christchurch.
- Paper, cardboard, and plastics are sorted by type then baled and transported to local and overseas reprocessors.
- Metals (kerbside collected tins and cans, whiteware and scrap metals) are collected by local reprocessors, such as Timaru Metal Recyclers/ Phoenix Metal Recyclers.
- E-waste and batteries - E-Cycle.
- Tyres - Southern X Press Ltd or Waste Management.
- Tyre Collection Services Ltd at Christchurch.
- Polystyrene and shrinkwrap – EnviroNZ.
- Soil remediation facility in Temuka – Canterbury Enviro Solutions.
- Proposed Class 2 – 4 landfill, 1315 Taiko Rd, Cave (lime rock quarry) – Canterbury Enviro Solutions.

There are currently no registered Class 2-4 landfills in the South Canterbury area. Environment Canterbury is currently processing a consent for a new Class 2 landfill at 1315 Taiko Rd, Cave. MDC and WDC have Class 5 Cleanfill sites located on closed landfills. MDC is currently in the process of applying for consents for their Cleanfill sites, which may mean they become Class 4 landfills in future.

Currently the Redruth Landfill is the only Class 1 disposal facility in the South Canterbury area.

A resource consent application has been received by WDC for a Waste to Energy facility in the Waimate District. This has been referred together with Environment Canterbury to the Environment Count. If consented, this would provide an additional waste disposal option, however, at this stage the source of waste is unknown, and the project is not fully supported by the community.

3.3 Product stewardship schemes

The government is focused on developing regulated schemes for six priority products: plastic packaging, tyres, e-waste including large batteries, agrichemicals and their containers, refrigerants and other synthetic greenhouse gases, and farm plastics. In addition, product stewardship schemes can register for accreditation with the government. A summary of the current product stewardship schemes that have either been accredited or regulated by the government under the WMA is outlined in Table 2. Over time, more product stewardship schemes are expected to be added to this list, and some of the existing accredited schemes are moving towards becoming regulated schemes. Unregulated schemes are not included in this list.

Table 2 Existing product stewardship schemes in New Zealand – regulated and accredited

Scheme Name	Regulated / accredited	Details
Agrecovery Foundation	Accredited scheme, working towards regulated status	Provides NZ farmers and growers with programmes for container recycling, drum recovery and collection of unwanted and/or expired chemicals. Also provides systems for return of shrink wrap and other farm plastics.
Envirocon	Accredited scheme, non-regulated	Waste concrete (including potentially harmful liquids) is diverted from landfill and upcycled into value-added precast concrete products for the Interbloc Modular Wall System.
Filter disposal services	Accredited scheme, non-regulated	Take back scheme for used oil filters from vehicles.
Glass Packaging Forum	Accredited scheme, non-regulated	The forum connects businesses that sell glass-packaged consumer goods with those that collect and recycle glass. This helps to improve

Scheme Name	Regulated / accredited	Details
		the quality and quantity of glass recycled. The aim is zero container glass to landfill.
Interface ReEntry Programme	Accredited scheme, non-regulated	The scheme recycles used Interface carpet tiles into new carpet tiles and other products. PVC backed carpet tiles beyond their usable life are sent back to the original manufacturer in the US where they are stripped and remanufactured.
Large batteries	Currently in design phase for regulated scheme	Managed by the Battery Industry Group, covering batteries greater than 5kg, excluding lead-acid batteries.
Plasback	Accredited scheme, non-regulated	Plasback collects and recycles agricultural plastics such as bale and silage wrap, and crop bags.
Plastic packaging	Currently in design phase for regulated scheme	The Packaging Forum and New Zealand Food and Grocery Council are leading the two-year co-design process on plastic packaging.
Refrigerant recovery scheme	Accredited scheme, currently in design phase for regulated scheme	The Trust for the Destruction of Synthetic Refrigerants, also known as RECOVERY collects and responsibly disposes of refrigerants used in the refrigeration and air conditioning industries.
Resene Paintwise	Accredited scheme, non-regulated	Take-back of paint and paint receptacles. User pays for non-Resene branded paint and paint receptacles.
Recovery Oil Saves the Environment (ROSE)	Accredited scheme, non-regulated	The used-oil recovery programme enables users, oil producers and regulators to responsibly collect, transport, use and dispose of used oil.
Soft Plastic Recycling Scheme	Accredited scheme, non-regulated	Soft plastic packaging is collected from participating stores and delivered to two NZ processors – Future Post in Waiuku and Second Life Plastics in Levin. The soft plastics are made into new products such as plastic fence posts, cable covers & garden edging.
Sharp Comprehensive Recycling and Waste Reduction Scheme	Accredited scheme, non-regulated	Sharp New Zealand aims to reuse and recycle 100% of its packaging materials, electronic products, equipment and obsolete and used parts.
Synthetic refrigerant scheme	Design phase for regulated scheme	End of life refrigerant management scheme.
TechCollect	Design phase for regulated scheme	End of life e-waste scheme.
Tyrewise	Regulated scheme	New Zealand's first regulated product stewardship scheme covering the management of tyres.

4 Waste data

It is important for the Councils to understand the quantity and composition of waste coming through their facilities and services so that it can identify opportunities to reduce waste to landfill and measure progress against targeted improvements. This section contains a summary of the available data for waste collected, recycled, recovered, and disposed of via the Councils' collection services and facilities. This includes data for the period July 2021 to March 2023 (MDC kerbside data starts from December 2021) as well as SWAP surveys from 2022. This is the core data set used for performance measure reporting and setting targets. It is noted that the Councils do not have access to waste data unless the material comes through a council-owned facility.

At a high level, observations from the data show:

- MDC's refuse volume is seasonal due to the impact of tourism (high percentage of holiday homes in Tekapo and Twizel).
- The refuse volume for TDC and WDC remains relatively consistent throughout the analysis period.
- No data was available from the private and commercial sectors (other than what is disposed at Redruth landfill).

To obtain a better understanding of waste data within South Canterbury and how it compares to other territorial authorities, a per capita figure has been used as the first guide. This is the total amount of known waste collected, divided by the total number of people in a defined area. It is an indicator of average "waste" production or recyclables diverted on a per person basis but is not directly equivalent to the amount of waste an individual throws away each year, as much of the waste is produced from commercial sources.

The 2018 census stated the average household size for the South Canterbury region is approximately 2.3 people per household. Not all households receive kerbside collection services in the region. The following service entitled premise (household and business) numbers were used when Councils started the waste services contract with EnviroNZ. These premise/household numbers are used as a proxy to estimate the number of people who receive kerbside collection services:

- TDC – 20,602 service-entitled premises ≈ 47,385 people
- MDC – 2,700 service-entitled premises ≈ 6,210 people
- WDC – 2,600 service-entitled premises ≈ 5,980 people

4.1 Progress against the 2018 WMMP targets

The Councils' progress against their 2018 WMMP targets is discussed in the following subsections.

4.1.1 Timaru District Council

Table 3 TDC waste targets

Levels of Service	Performance measure	Target 2021/22	2021/22 Achievement
Waste Minimisation services meet customer expectations	User satisfaction with waste minimisation services (biennial resident survey)	95%	Nearly achieved 91%
No adverse effects on the environment or human health from the operation of waste minimisation services	Compliance with Resource Consent Conditions (Excluding all minor non-compliance as reported by Environment Canterbury)	No abatement notices, infringement notices, enforcement orders and convictions	Not achieved One non-compliance notice issued during the year for stormwater leachate breakout into the stormwater system at Redruth landfill in February 2022 (2020/21: Achieved)
Waste is diverted from landfill	Materials Recovery Facility (MRF) – recycling net tonnages diverted	4,000 tonnes	Achieved 5,059 tonnes
	Compost Facility – Organic net tonnages diverted	15,000 tonnes	Achieved 18,576 tonnes
	Recycling net tonnages diverted via recycling other than for MRF recyclables	300 tonnes	Achieved 382 tonnes
	MRF – level of contamination of recycling	Less than 10%	Not achieved 26.48%

4.1.2 Mackenzie District Council

Table 4 MDC waste targets

Levels of Service	Performance measure	Target 2021/22	2021/22 Achievement
Engage the community to achieve waste reduction	The percentage of solid waste from the district resource recovery diverted from landfills	45% or above	Achieved Council-controlled waste 56%, Incl. commercial waste 51%
	The amount of household kerbside waste to landfill	152kg per person per annum	Achieved 100kg per person per annum
	Average customer satisfaction rating for kerbside waste collections	80% or above	Achieved 88%
	Average customer satisfaction rating for Resource Recovery Parks	80% or above	Not achieved 66% for 2022
Waste is handled hygienically	Compliance with resource consent conditions	100%	Achieved 100%

4.1.3 Waimate District Council

Table 5 WDC waste targets

Levels of Service	Performance measure	Target 2021/22	2021/22 Achievement
Convenient and accessible waste management services	Residents receiving the service are satisfied with waste management services	≥75%	Achieved 77%
	Council provides access to kerbside recycling & refuse collection	≥70% of the district's properties	Achieved 77.5%
Council manages the waste management services wisely	Compliance with Resource Consent conditions	Full compliance	Achieved
	Reduce the percentage of residual waste to landfill	<49%	Achieved 31.67%
Public information and programmes promote waste minimisation and appropriate sorting of waste	Number of fly tipping incidents in the district	≤15	Achieved 9 recorded
	Percentage of organics and recyclables in refuse collection bin	≤22%	Not achieved 57.2%

4.2 Waste quantities and composition

The following sections outline the quantum of waste volumes and composition for each council. This covers Councils' kerbside collection services and facilities. All waste materials controlled by Councils are eventually disposed of at Redruth landfill.

4.2.1 TDC kerbside waste

Figure 4 shows the composition of kerbside waste, recycling, glass and organic materials collected by TDC between July 2021 and March 2023. There is seasonal variability for organic materials that would peak around the summer period. The other material streams remain fairly consistent throughout the analysis period.

Timaru has an estimated service entitled population of 47,385 people. The total amount of kerbside rubbish collected in 2022 was 6,150 tonnes (includes all premises, both service entitled households and businesses). This equates to **130kg per capita per year**. The total kerbside materials collected in 2022 was 22,693 tonnes,

meaning 73% of the materials were diverted.

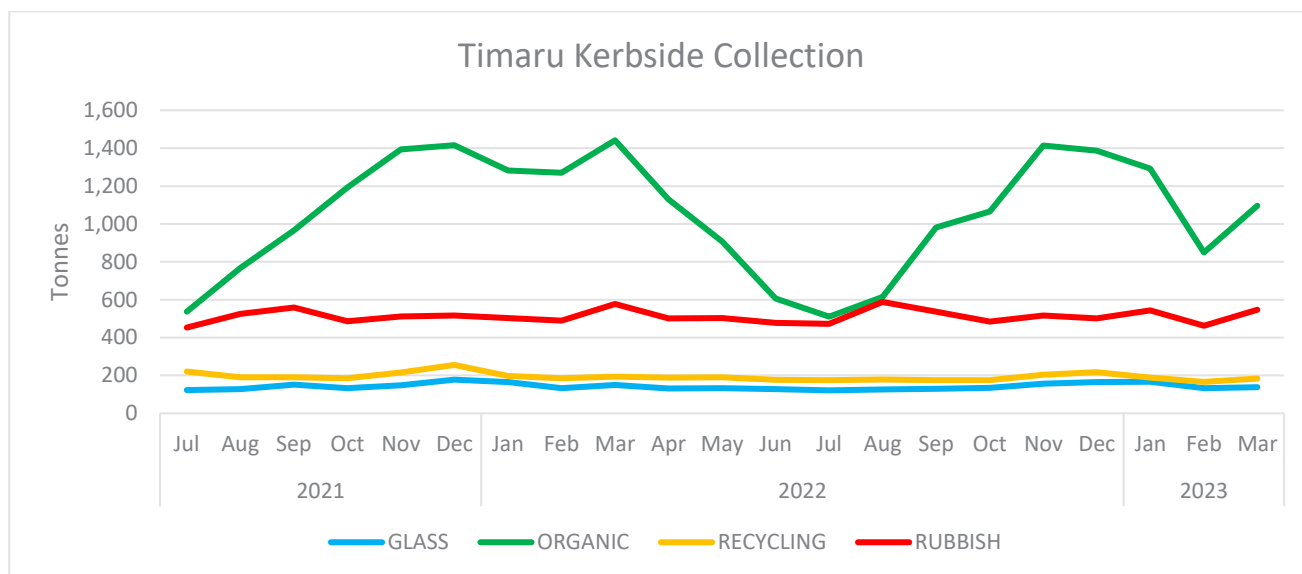


Figure 4 Volume of TDC kerbside collection

4.2.2 MDC kerbside waste

Figure 5 shows the composition of kerbside waste, recycling, glass and organic materials collected by MDC between July 2021 and March 2023. MDC has only started the collection of organic materials in March 2022 and there is still a significant variability in the quantities collected every month. This will gradually stabilise as residents become more aware of the service and how they use it. There is also seasonal variation in kerbside collections, with greater volumes collected during the summer peaks (December to January) in both 2021/22 and 2022/23.

Mackenzie has an estimated service entitled population of 6,210 people. Since the start of organics collections, the total amount of kerbside rubbish collected over the previous twelve months (April 2022 to March 2023) was 619 tonnes. This equates to **100kg per capita per year**. The total kerbside materials collected over this period was 1,818 tonnes, meaning 66% of the materials were diverted.

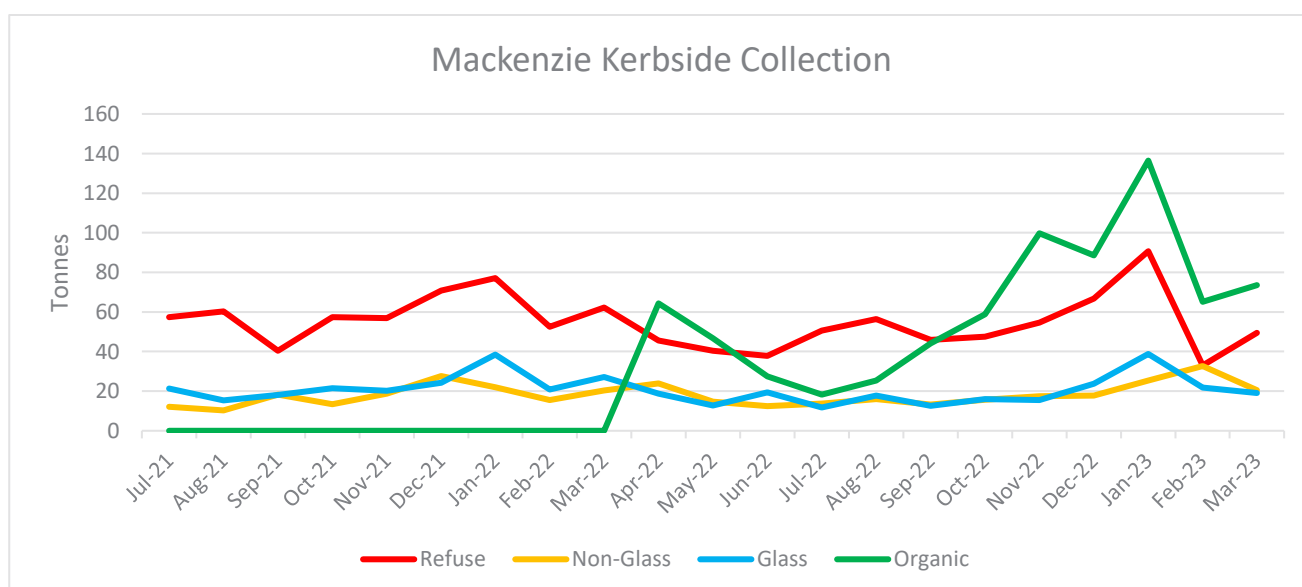


Figure 5 Volume of MDC kerbside collection

4.2.3 WDC kerbside waste

Figure 6 shows the composition of kerbside waste, recycling, glass and organic materials collected by WDC between December 2021 and March 2023. There is seasonal variability for organic materials, whereas the other material streams remain fairly consistent throughout the analysis period. These trends are very similar to TDC however at a much smaller scale.

Waimate has an estimated service entitled population of 5,980 people. The total amount of kerbside rubbish collected in 2022 was 672 tonnes. This equates to **112kg per capita per year**. The total kerbside materials collected in 2022 was 2,579 tonnes, meaning 74% of the materials were diverted.

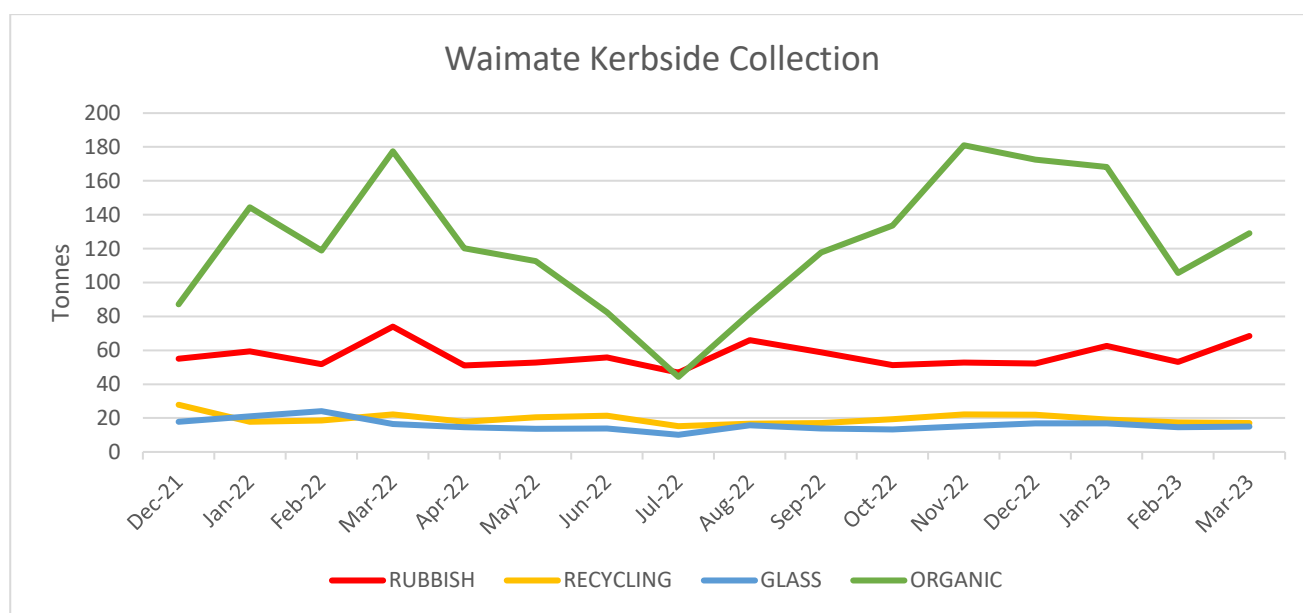


Figure 6 Volume of WDC kerbside collection

4.2.4 TDC Resource Recovery Parks

TDC owns and operates a Resource Recovery Park at Redruth, Timaru. Figure 7 shows the most common materials received at the Redruth Resource Recovery Park that are weighed. Rubbish and organic materials dropped off by the public were the most common and represent over 60% of total materials received. The inclusion of cleanfill and hardfill would represent over 95% of total materials received. Other diverted materials (such as e-waste, tyres) received accounted for approximately 1.6 tonnes, in 2022, excluding material taken directly to the Crows Nest reuse shop.

TDC also owns and operates three transfer stations at Geraldine, Pleasant Point, and Temuka. Figure 8 shows the composition of the weighed materials received at each transfer station. These are similar to the composition at Redruth RRP where rubbish and organic materials received from the public were the most common.

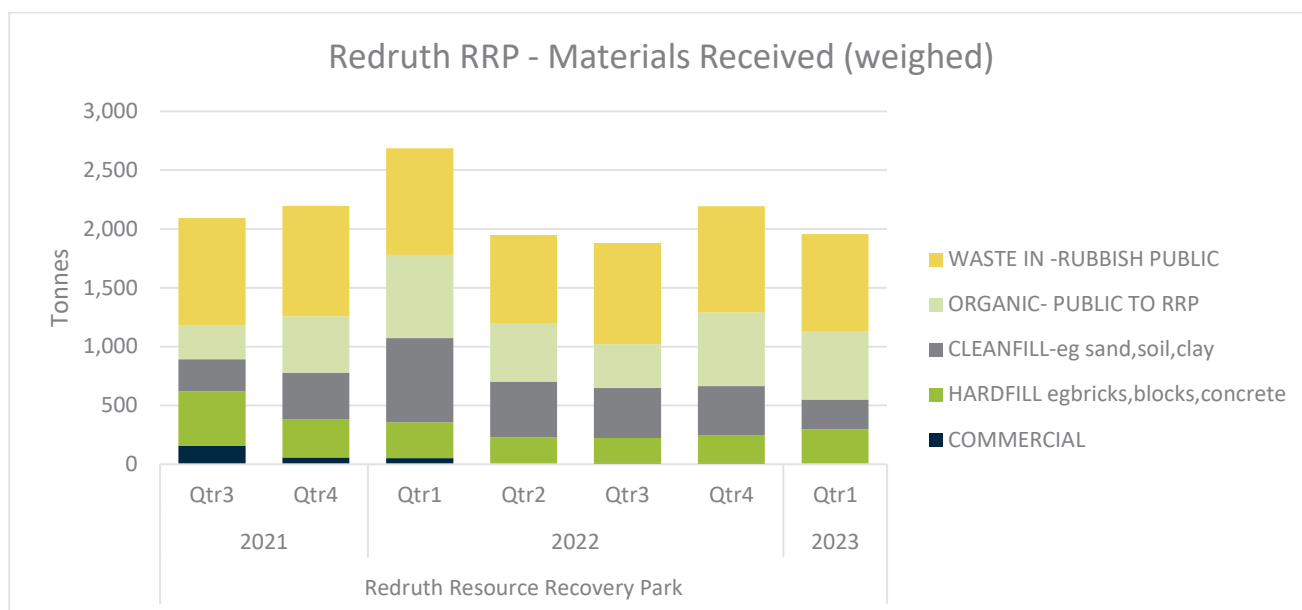


Figure 7 Composition of TDC's Redruth Resource Recovery Park (weighed materials)

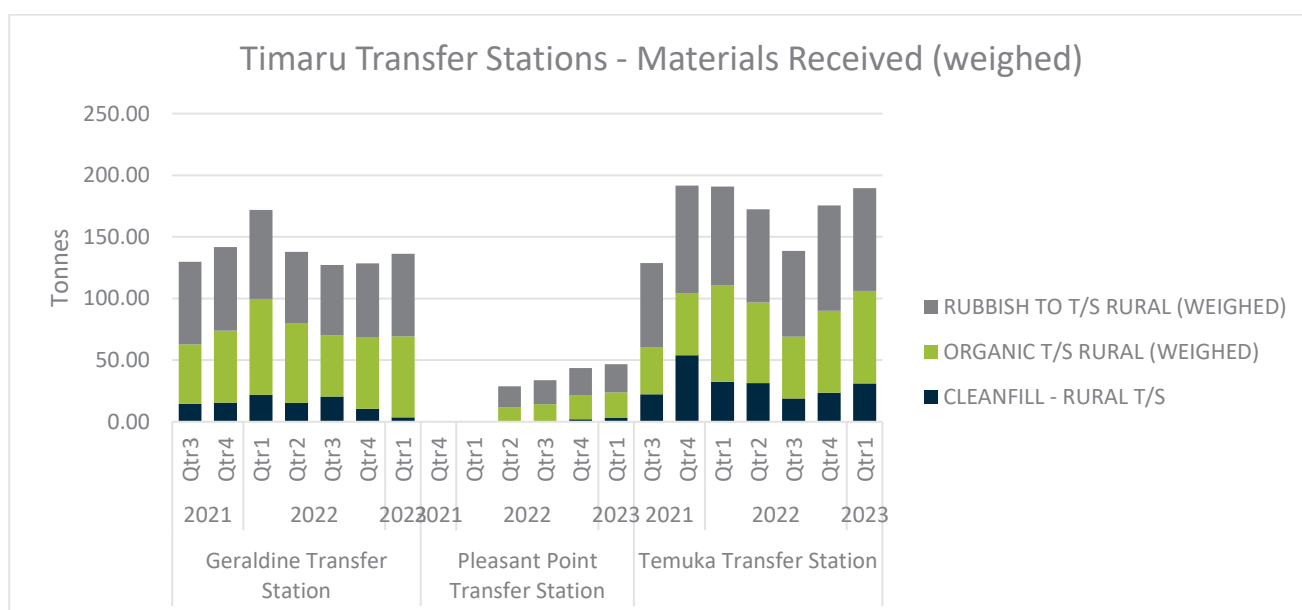


Figure 8 Composition of TDC's transfer stations (weighed materials)

4.2.5 MDC Resource Recovery Parks

MDC owns and operates three RRP's at Twizel, Fairlie and Tekapo. Currently, the Twizel RRP is the only RRP has a weighbridge installed. Materials received at Fairlie and Tekapo RRP are transferred, weighed and consolidated at Twizel RRP before they get transported to the Redruth facilities.

Figure 9 and Figure 10 showed the weighed and non-weighed materials received at the RRP's. Similar to TDC facilities, rubbish and green waste materials appear to be the most common materials received at RRP's. Furthermore, there appears to be an increasing trend for these materials to be disposed of at each RRP.

MDC has 3 cleanfill sites near the RRP that accept on average 192 tonnes per year.

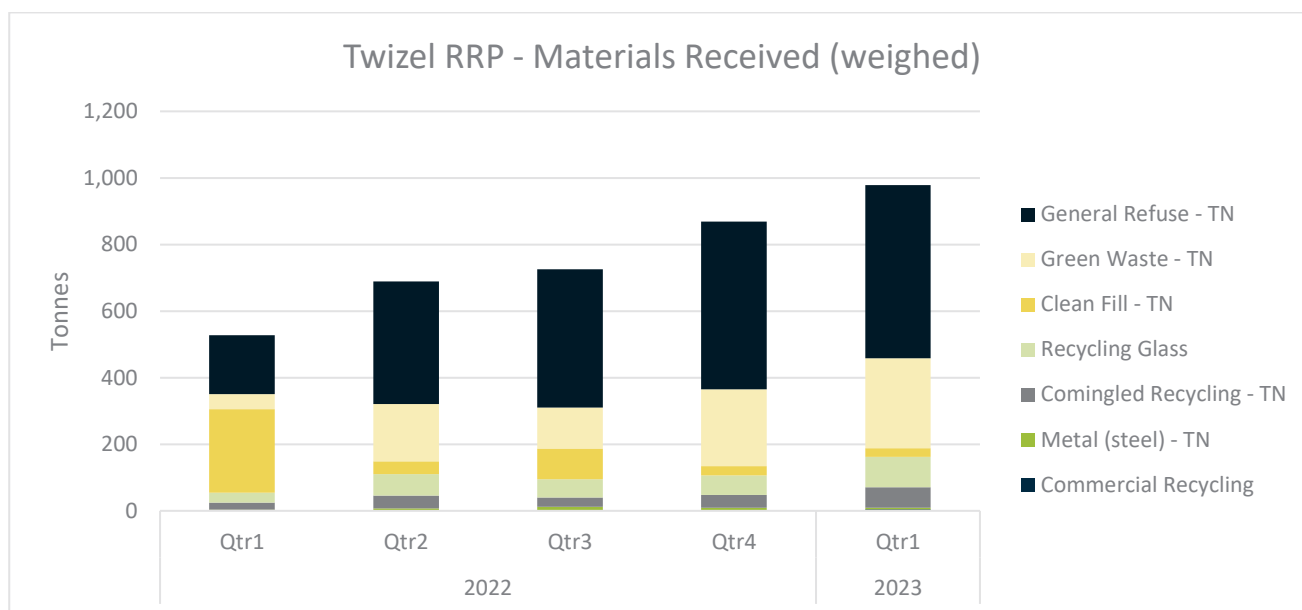


Figure 9 Composition of MDC's Twizel Resource Recovery Park (weighed materials)

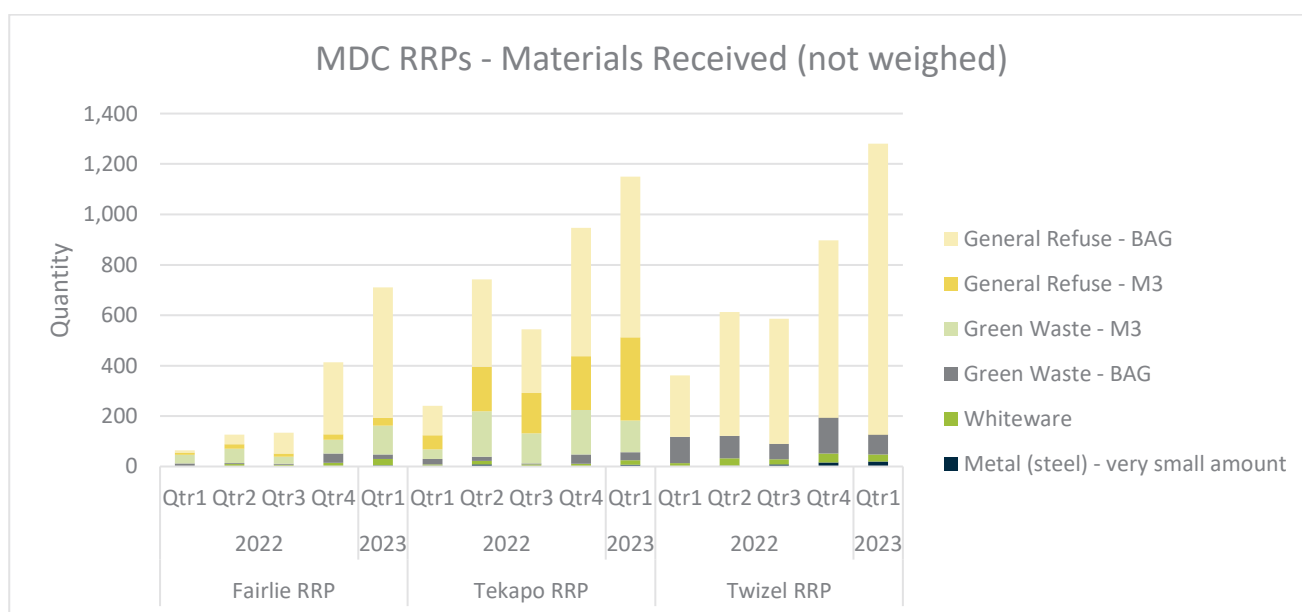


Figure 10 Composition of MDC's Resource Recovery Parks (non-weighed materials)

4.2.6 WDC Resource Recovery Park

WDC owns and operates one RRP in the district, Waimate RRP. Figure 11 shows the composition of the weighed materials received at the facility from October 2021 to March 2023. The largest volumes being green waste, rubbish and hardfill.

In addition, WDC has a cleanfill site near the RRP. In 2021/22, 275 tonnes of material were deposited in this facility.

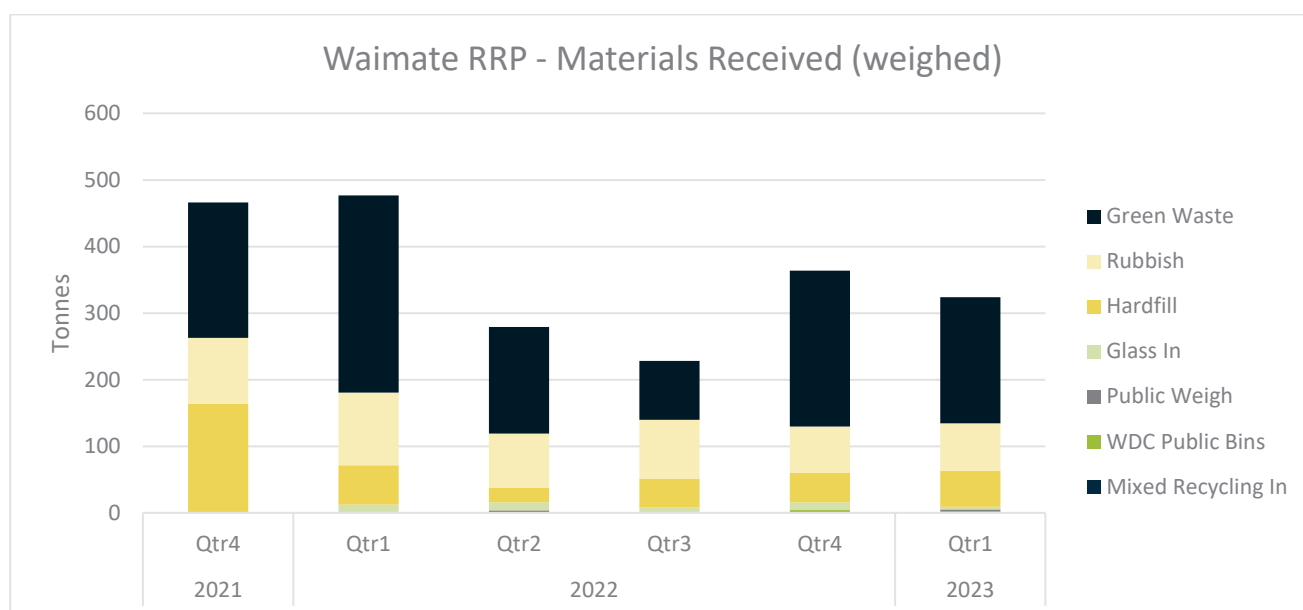


Figure 11 Composition of WDC's Resource Recovery Park (weighed materials)

Lake Camping Collection: Waimate District Council organises collection of glass, mixed recycling, and rubbish from lakeside camping sites during the camping season – October to May. In the 2021/22 camping season, 17 tonnes of glass, 32 tonnes of rubbish and 3 tonnes of mixed recycling were collected.

Rural Recycling Depots: There is year-round collection of recyclables from rural recycling depots for mixed recycling and glass. In 2021/22, 87 tonnes of glass and 38 tonnes of mixed recycling were collected. The depots are located at Glenavy, Willowbridge, Murven, Makikihi, Saint Andrews, Holmes Station Road (Maungati), Hunter Domain, Forks Hotel, Station Peak, and Hakataramea (Wrights Crossing).

4.2.7 Farm Waste

Environment Canterbury has been participating in the New Zealand Rural Waste Minimisation Project. This project is looking at what options can be implemented to improve the services provided to farmers to support waste reduction and better manage risks associated with farm waste disposal. Surveys undertaken in 2018 reported that 80% of farms burnt or buried their waste on-site. No reliable data is available on the total volume of this farm waste.

Council-provided transfer stations are used by rural households to dispose of waste and recycling and some private waste companies provide rural collection services. Council transfer stations have supported product stewardship schemes such as Agrecovery.

4.2.8 TDC Regional Processing Facilities

TDC's Redruth processing facilities consist of a Material Recovery Facility, a Glass Handling Facility, and an Organic Processing Facility. These facilities are managed by EnviroNZ as part of TDC's waste services contract. Materials collected from kerbside, transfer stations and RRP's in the Timaru, Mackenzie and Waimate districts are transported and processed at Redruth. The facilities also receive materials from other districts in the lower and central South Island.

Error! Reference source not found. Figure 12 shows the tonnage information for these facilities between July 2021 and March 2023. There is variability for materials received at the Organic Processing Facility and it generally follows the volume of organic materials received from the Councils' kerbside collection. Organic materials received at Redruth were significantly higher than the other materials due to the inclusion of green

waste from kerbside collection.

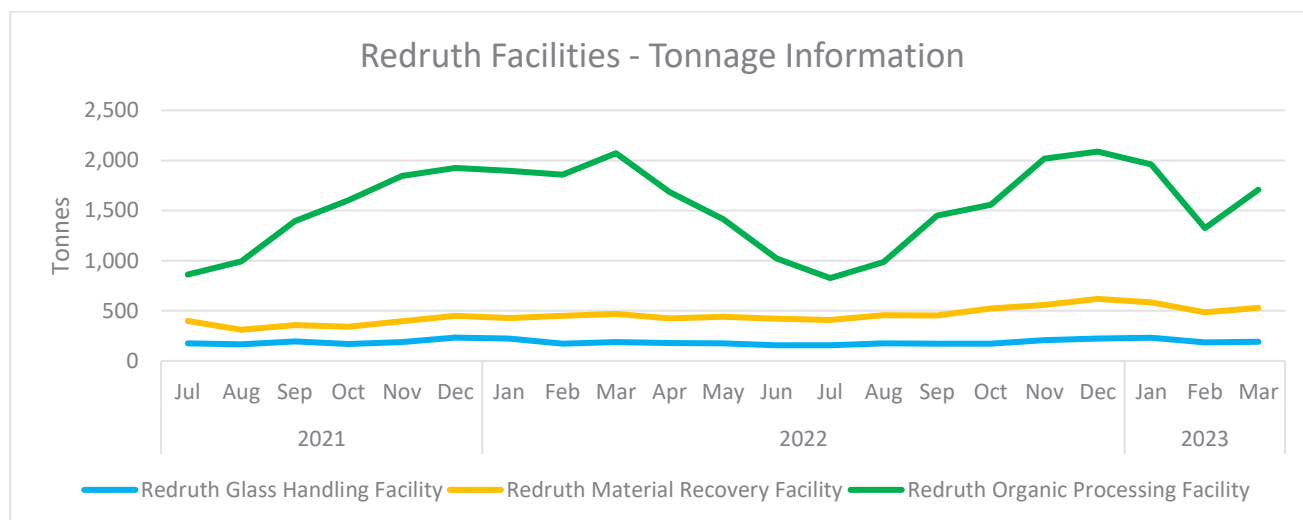


Figure 12 Tonnage information of TDC's Redruth processing facilities

4.2.9 Waste to landfill

Waste in South Canterbury is disposed at TDC's Redruth Landfill, a Class 1 landfill facility. The landfill also receives some waste from outside the South Canterbury area in accordance with the waste manifest system. The waste to landfill amounts for the 2021-2023 period are shown in Figure 13. The data includes residual waste from kerbside collections as well as general waste (residential and commercial) from a number of sources.

The most common material received at the landfill was waste generated from commercial, industrial and demolition activities. In addition to waste material, soil is accepted at the landfill that is used for landfill construction activities and cover. This includes soil used for daily cover, intermediate cover, final cover and the development of new cells. In order to optimise the airspace and life of Redruth landfill the material used for landfill construction and daily cover continues to be a focus area that TDC will target and reduce, whilst ensuring minimum operating requirements are met. Figure 14 shows the composition of commercial, industrial and demolition waste received at the landfill.

Unspecified wastes generally consist of residual waste materials transported from the Redruth processing facilities (e.g. contamination and processing losses), the Redruth RRP and the other Council transfer stations and RRPs.

The Redruth Landfill also receives special waste that includes hazardous waste, asbestos, millscreenings, animal bodies and materials from closed landfill.

Figure 15 shows the waste disposed at Redruth landfill since 2006. Waste volumes reduced from 2006 to 2009, but since then rose until 2020. The rise was mostly gradual but there were spikes in 2010 and 2014. Since 2020, volumes have been reducing, with volume received in 2021 the lowest since 2009.

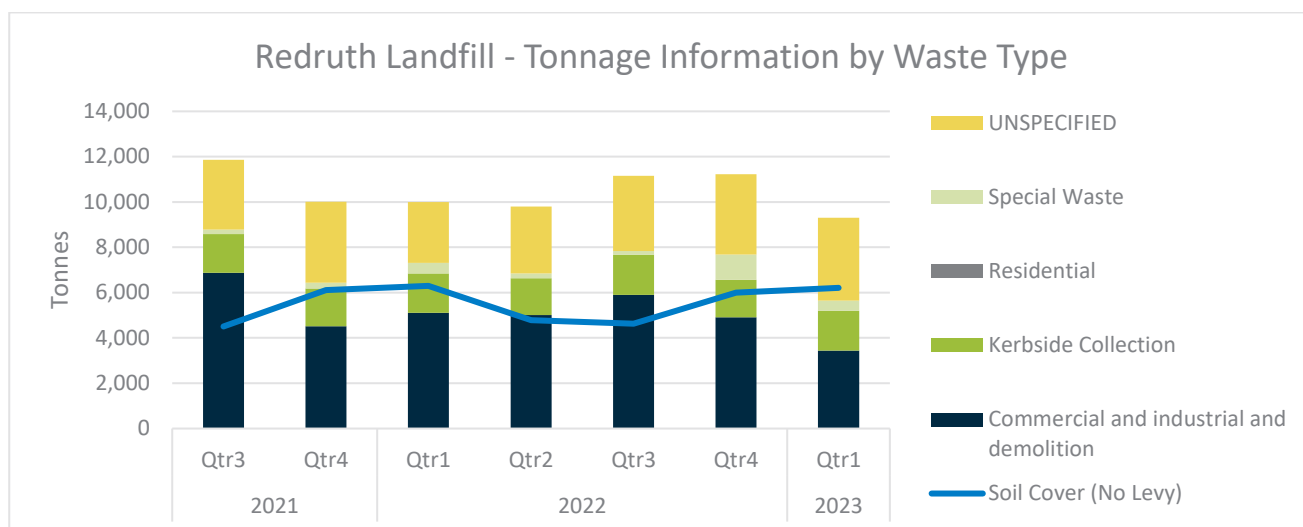


Figure 13 Waste type composition of Redruth Landfill

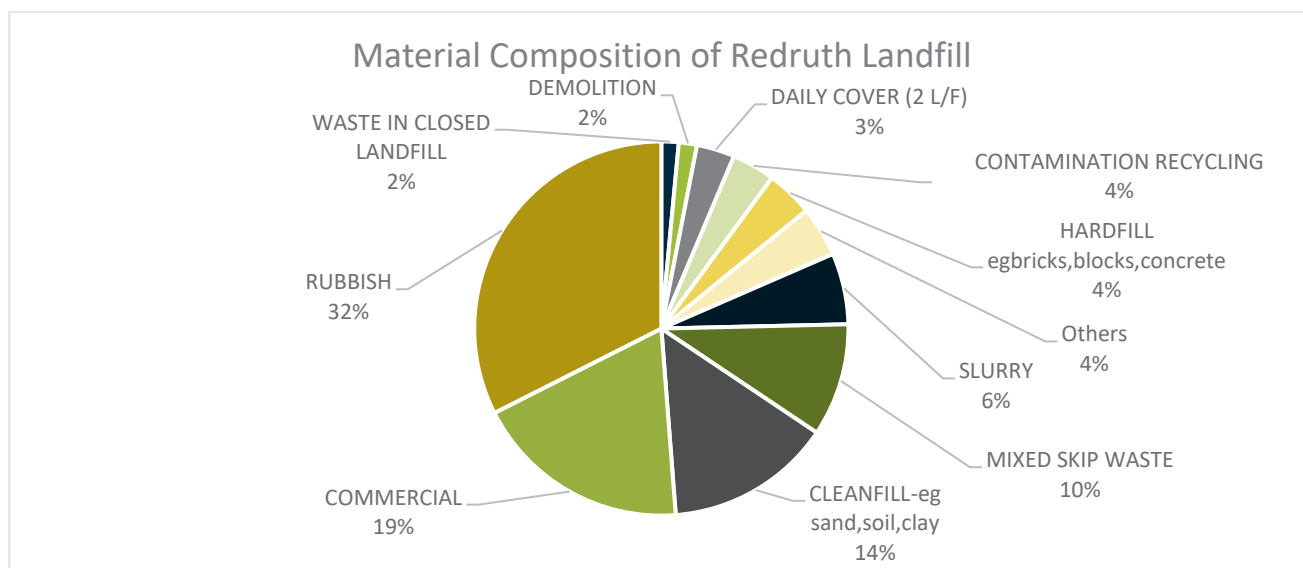


Figure 14 Materials composition of Redruth Landfill

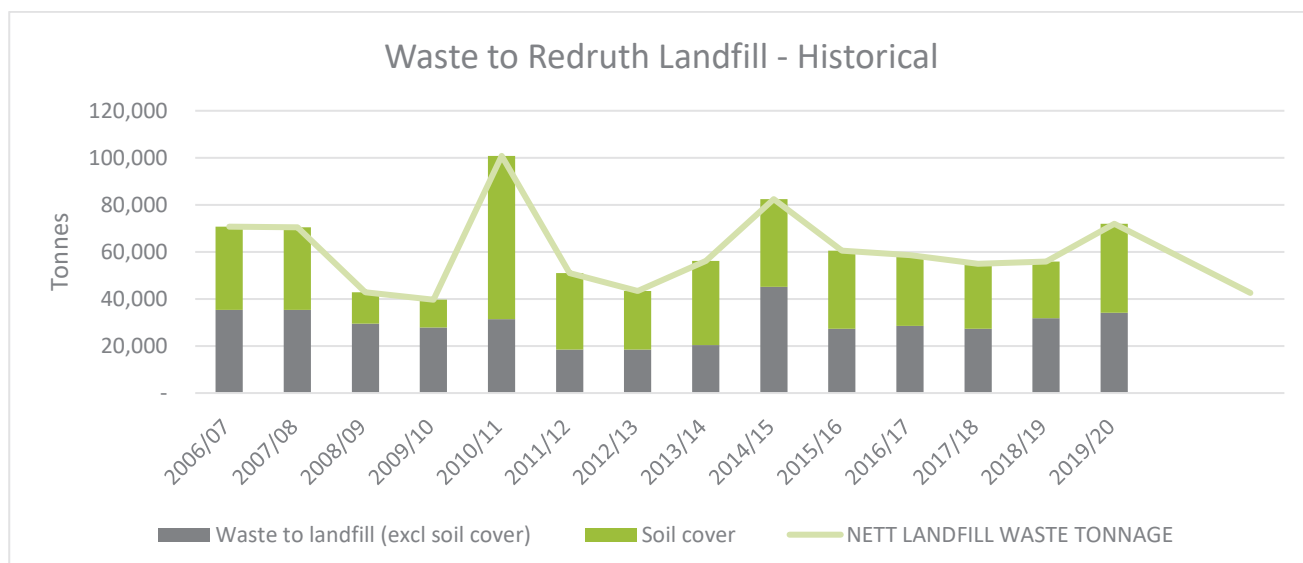


Figure 15 Waste to Redruth Landfill – Historical

4.3 SWAP results

The following analysis uses data obtained from the SWAP report for each council. The methodology for the sort-and-weigh audit of kerbside rubbish was based on Procedure One of the Ministry for the Environment's Solid Waste Analysis Protocol 2002.

4.3.1 TDC Kerbside waste to landfill composition

Figure 16 below illustrates the kerbside composition of waste disposed in TDC 140-litre wheelie bins destined for landfill. Organics (food waste, green waste, compostable other), was the largest component, comprising 36% of the total.

Plastic was the second largest component of the waste stream, comprising 17%. Of this, plastic bag/film (9%) and plastic grade #1,2,5 bottles/containers (3%) could be recycled. Paper made up 10% of the wheelie bins, most of which was recyclable.

Similar to the other two councils, TDC has recently started the reporting of kerbside bins presentation rates. This information will provide an indication of bin utilisation that can be used to inform council's future service intervention strategies. Initial results (as at March 2023) indicate the following presentation rates: Refuse (96%), Recycling (72%), Glass (27%) and Organics (72%).

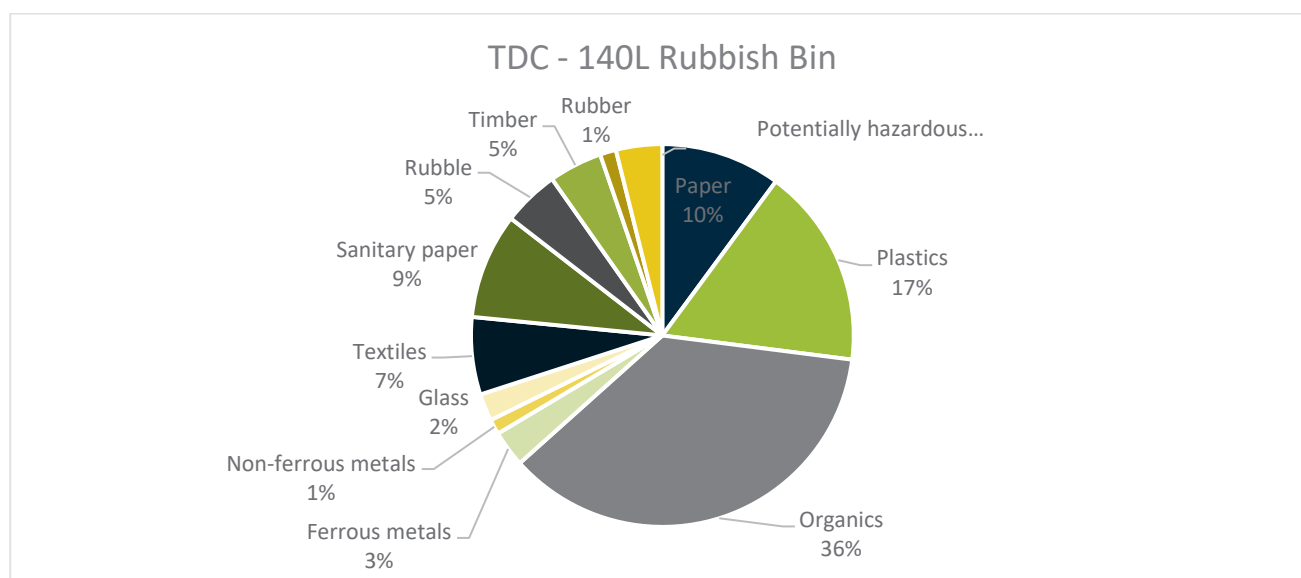


Figure 16 Primary composition of TDC 140-litre rubbish bins – 2022

Source: *Composition of Kerbside Rubbish in Timaru District, WasteNot Consulting, December 2022*

4.3.2 MDC Kerbside waste to landfill composition

Figure 17 below illustrates the kerbside primary composition of waste disposed in MDC 140-litre wheelie bins destined for landfill. Organics was the largest component, comprising 47% of the total.

Plastic was the second largest component of the waste stream, comprising 13%. Of this, plastic bag/film (8%) and plastic grade #1,2,5 bottles/containers (3%) could be recycled. Paper made up 6% of the wheelie bins, most of which was recyclable.

Figure 18 shows the bin presentation rates of kerbside collection. There is an increasing trend for organic bins to be presented for collection. This is expected as residents are gradually adopting the organic service. Seasonal trends can be observed for the other material streams around the summer peak periods.

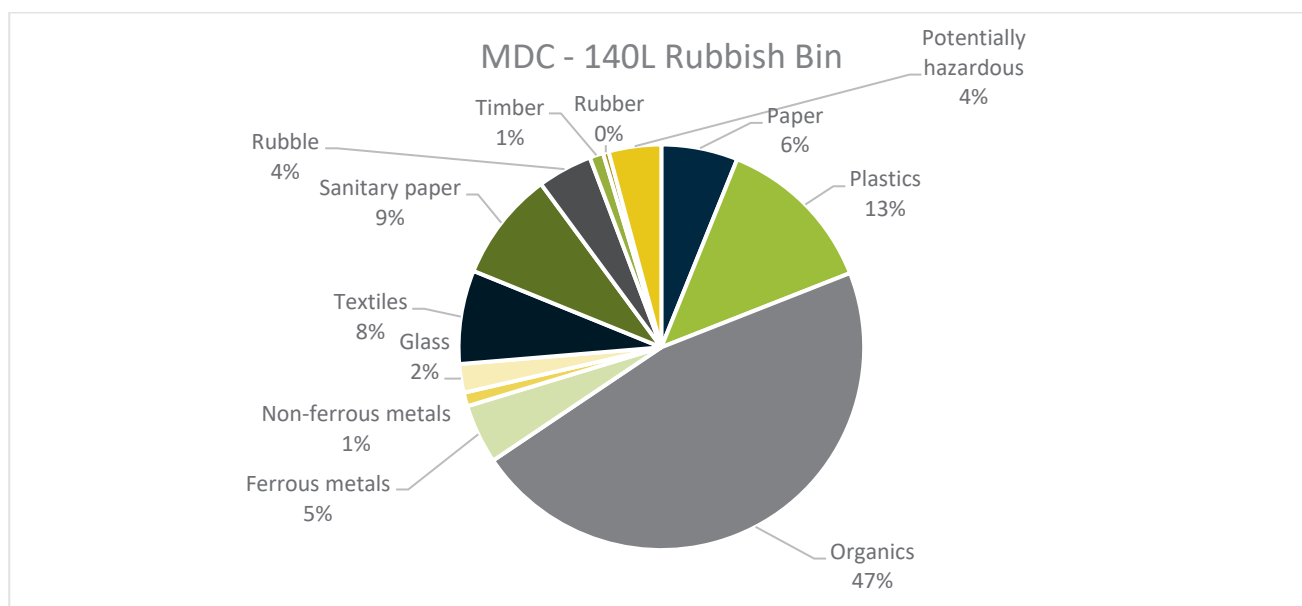


Figure 17 Primary composition of MDC 140-litre rubbish bins – 2022

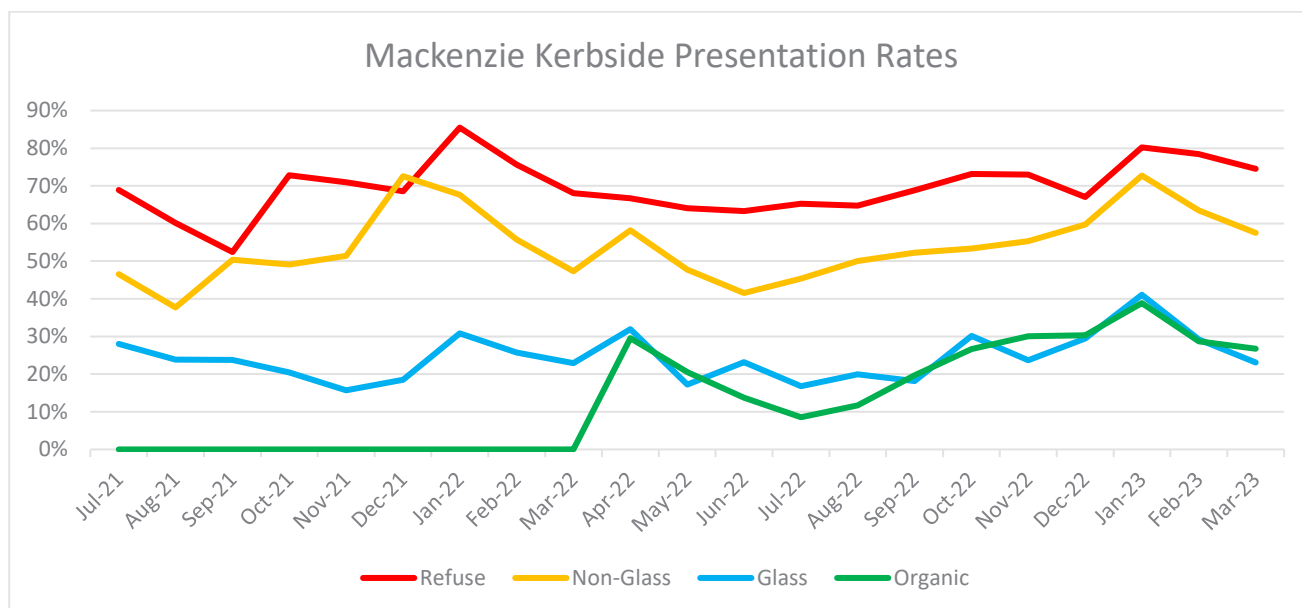


Figure 18 Presentation rates of MDC kerbside collection

4.3.3 WDC Kerbside waste to landfill composition

Figure 19 below illustrates the kerbside primary composition of waste disposed in MDC 140-litre wheelie bins destined for landfill. Organics was the largest component, comprising 40% of the total.

Plastic was the second largest component of the waste stream, comprising 15%. Of this, plastic bag/film (8%) and plastic grade #1,2,5 bottles/containers (2%) could be recycled. Paper made up 8% of the wheelie bins, most of which was recyclable.

Figure 20 shows the bin presentation rates of kerbside collection. The overall presentation rates remain fairly consistent for all material streams throughout the analysis period.

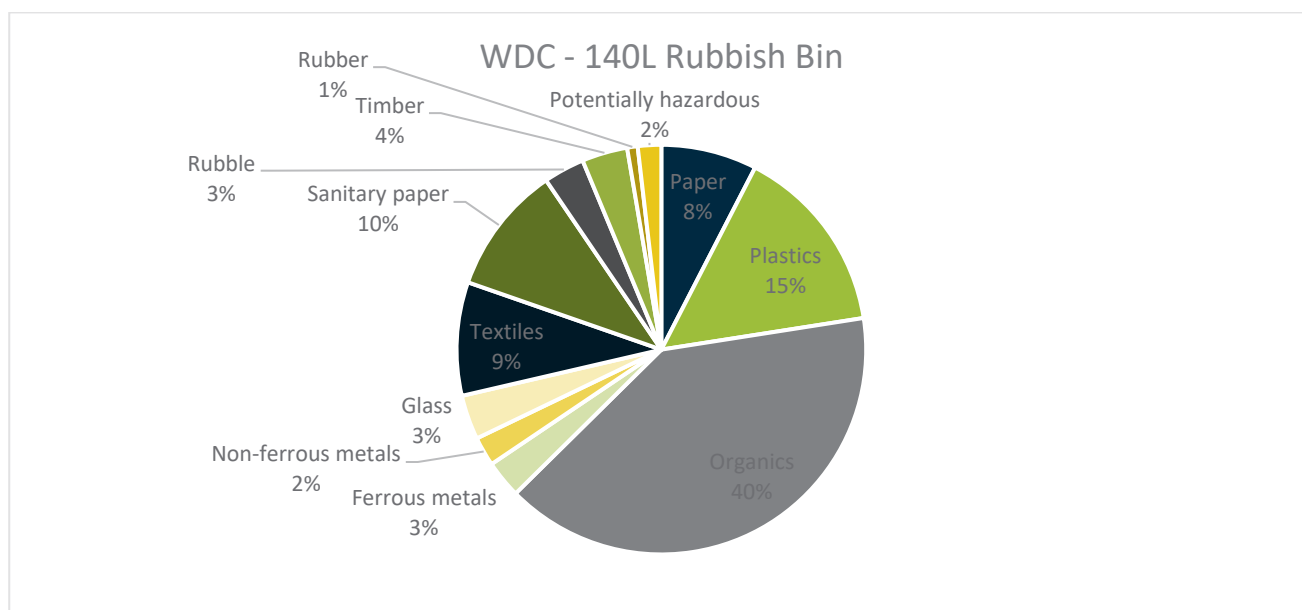


Figure 19 Primary composition of WDC 140-litre rubbish bins – 2022

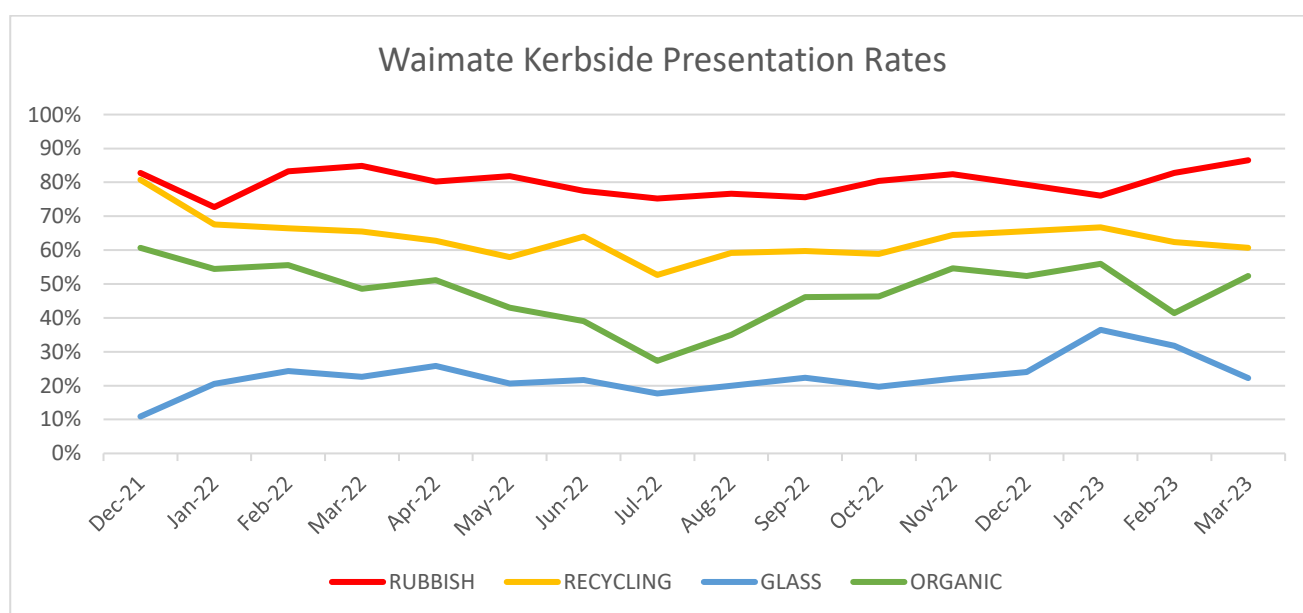


Figure 20 Presentation rates of WDC kerbside collection

4.4 Diversion potential

4.4.1 Councils' 140-Litre rubbish bins

To reduce waste to landfill, Councils provide residential properties with separate kerbside collections of mixed recycling, glass, and organics (food and green waste). The kerbside mixed recycling collection accepts #1,2,5 plastic bottles and containers, clean cardboard and paper, and steel and aluminium cans. Each council also operates their own drop-off facilities that accept all the materials accepted by the kerbside collection except food waste.

Figure 21 to Figure 23 below show the diversion potential of organics and recyclables from Councils' kerbside refuse wheelie bins based on the 2022 SWAP analysis, within which the divertible fraction of different

material types was identified. The average weight per refuse bin was 10 to 12kg. Not all materials collected in the refuse bin can be recycled or composted. However, it is evident that there are still significant amounts of material that can be recycled or composted, specifically food waste. This is promising for the possibility of diverting more material from landfill using the services already provided by the Councils.

For the Councils, 20-30% of the divertible material is recyclables that could be recycled via the kerbside mixed recycling and glass collection systems, while the remaining 70-80% could be composted via the kerbside organics collection system.

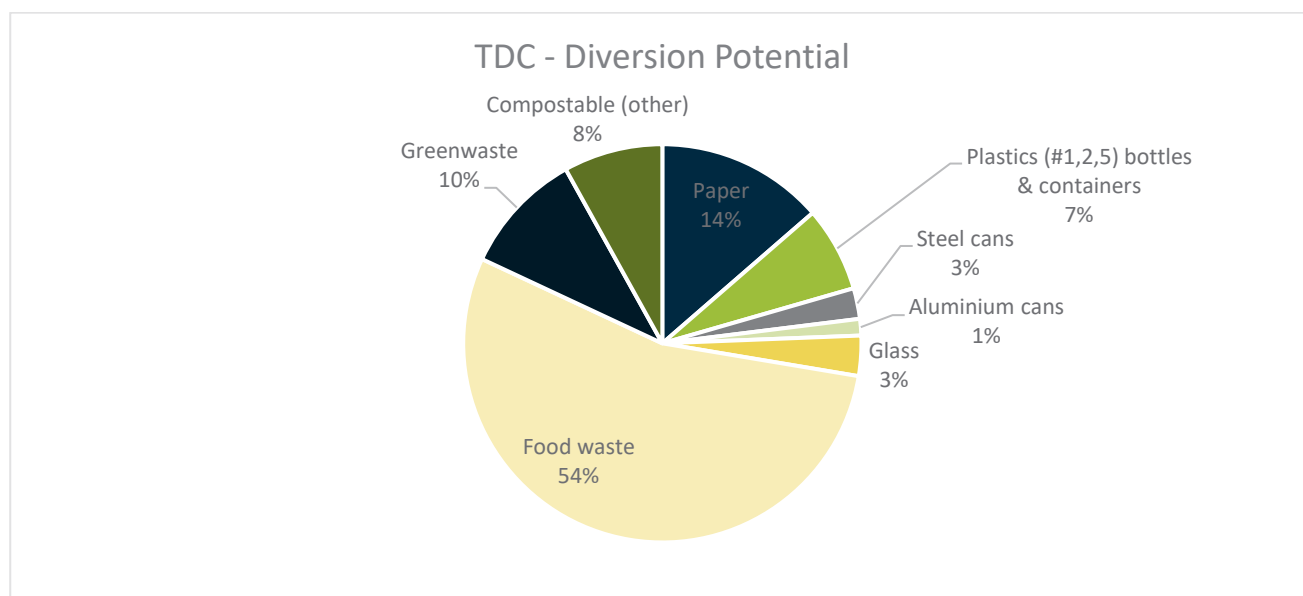


Figure 21 Diversion potential of TDC 140-litre rubbish bins – 2022

(Source: Composition of Kerbside Rubbish in Timaru District, WasteNot Consulting, December 2022)

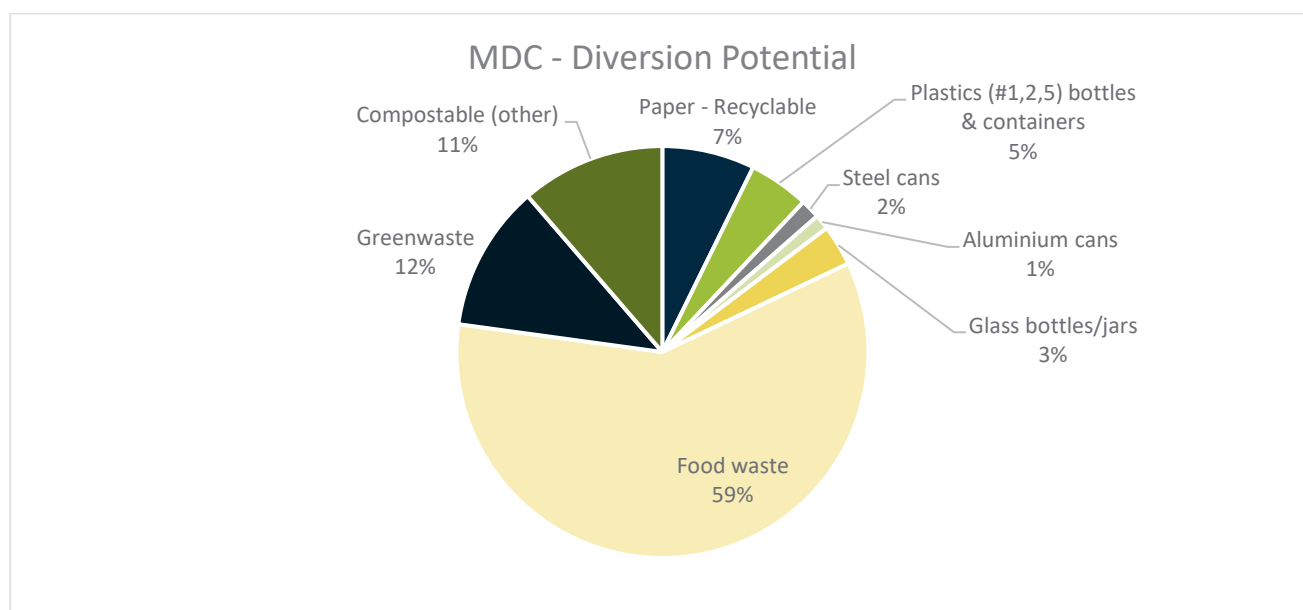


Figure 22 Diversion potential of MDC 140-litre rubbish bins – 2022

(Source: Composition of Kerbside Rubbish in Mackenzie District, WasteNot Consulting, December 2022)

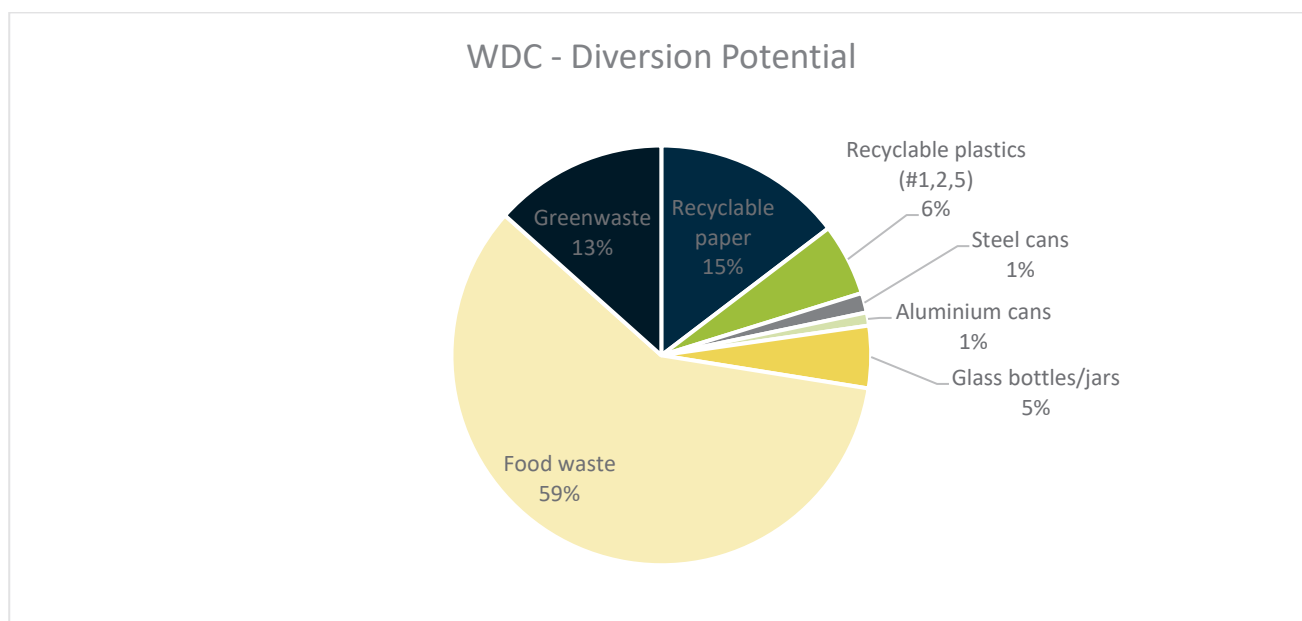


Figure 23 Diversion potential of WDC 140-litre rubbish bins – 2022

(Source: Audit of Kerbside Rubbish and Recycling in Waimate District, Sunshine Yates Consulting, November 2022)

4.4.2 Redruth Landfill

There is no current SWAP data available for Redruth Landfill that specifically identifies the diversion potential. However, from the weighbridge records there are still quantities of organic, recyclables within the general waste stream and C&D waste/cleanfill and hardfill mostly from commercial operators (that TDC has limited control over) that could be diverted from landfill.

5 Future Growth and Demand for Waste Services

The future demand for waste services will be influenced by several key drivers including:

- demographic change
- change in economic activity (such as tourism, construction)
- impact of waste flows (from other districts, change in service, availability of facilities, markets for recovered material)
- customer expectation, consumption patterns and product quality (behaviour change, packaging change)
- the occurrence of natural disaster events (significant earthquake or flood event)
- national policy and legislation change (refer Section 2).

5.1 Demographic change

Total waste is expected to increase due to population growth. As the population increases, the associated demand for waste services increases and diversion services are required to limit the pressure on landfill and other waste handling facilities, including the existing RTS network. Across the three Councils, long-term population growth is expected to be less than 1% per annum.

5.1.1 Timaru District

The population of the Timaru District was estimated at 48,400 in 2020. The District's population is projected to increase gradually to 52,861 by 2031 (0.7% average annual increase), reaching 57,130 in 2051 (0.3% average annual increase).

The population is concentrated around Timaru township (2018 population approximately 30,000 - including Fairview and Washdyke) and in the smaller townships of Temuka (4,330), Geraldine (2,700) and Pleasant Point (1,400). The District also has a number of villages including Pareora, Orari, Cave, Winchester and Woodbury.

The district will continue to age over the next 30 years as the relatively large 'baby boomer' cohort moves into the 65+ age group. This means that by 2051, around 18,478 people will be in this age group or 32.3% of the district's population. Within this cohort, by 2051 the population at higher ages (i.e. 75+) will more than double compared to 2021 (9%). Other age groups (e.g. below 15, 15-64) will grow much more slowly in comparison. Generally, those in the older age group with smaller households, generate less waste per household.

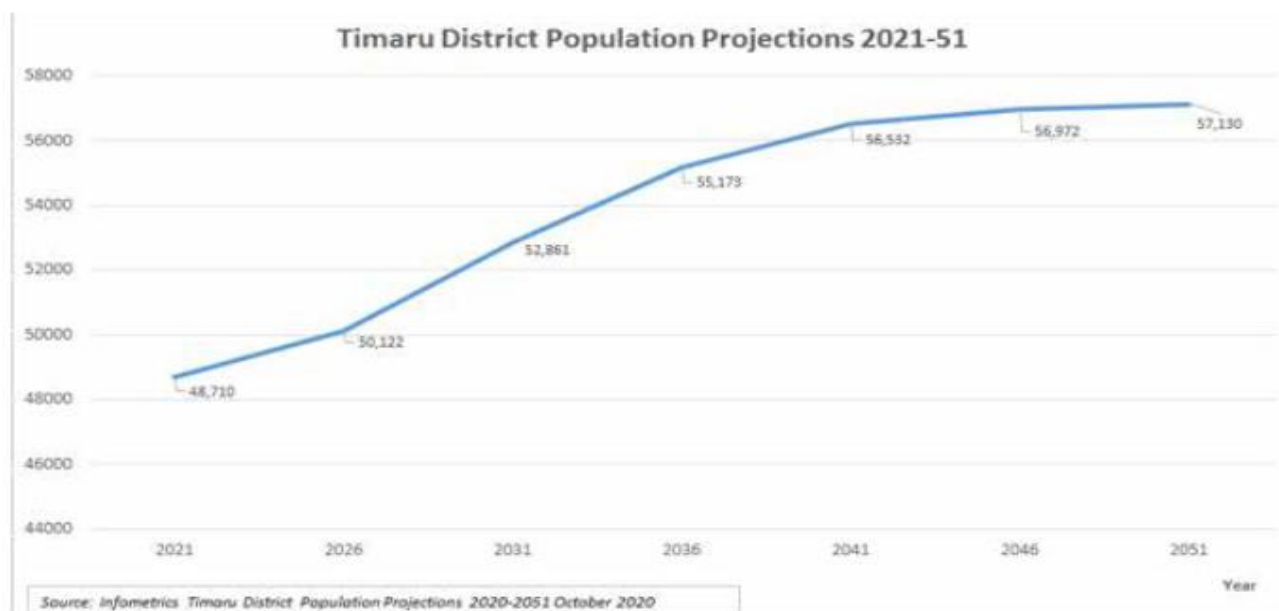


Figure 24 Timaru Population Projections

5.1.2 Mackenzie District

MDC's population is predicted to continue to grow in all areas but at differing rates. The population is expected to be near 9,000 by 2050. Short term annual growth rate is around 2% with a long-term growth rate around 1.8%.

Tekapo is predicted to reach dwelling capacity in approximately 2030 and Twizel in approximately 2040. This capacity is calculated based on the currently zoned residential land in MDC's Operative District Plan and current development patterns.

Following capacity being reached, the additional population, and dwellings, (i.e. unrestricted growth) generated by growth fall into the district overflow category. At this point there is too much uncertainty to predict exactly where these people will live. It is assumed that the 'District Overflow' will remain in the district if more dwellings are made available. This is predicted to occur in Tekapo between 2040 and 2045. It is not predicted to occur in Twizel before 2050.

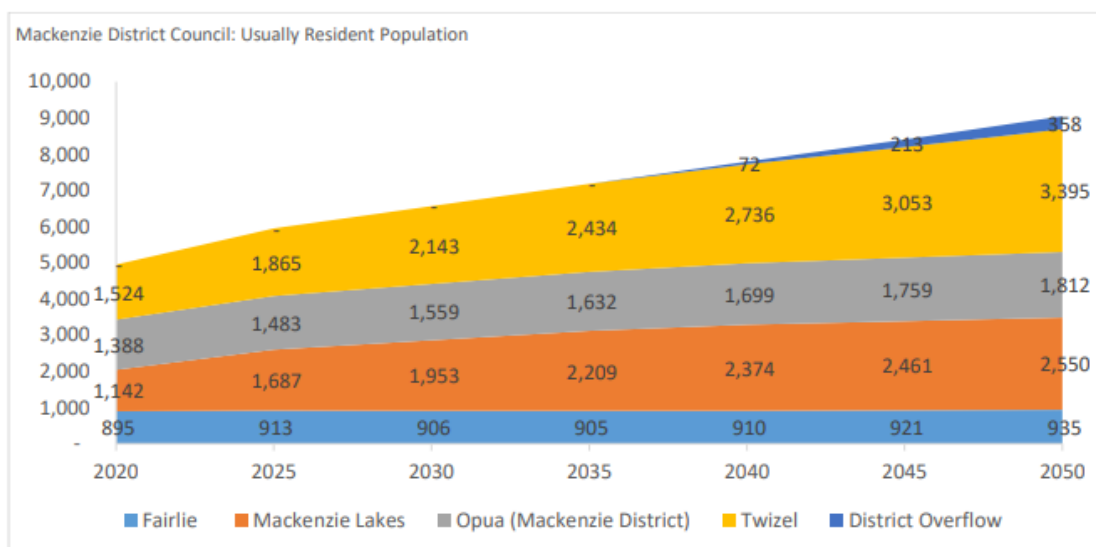


Figure 25 Mackenzie Population Projections

5.1.3 Waimate District

Over the next 30 years, the usually resident population of Waimate District is predicted to increase slightly.

The average age of Waimate District's population is older than the national average of 37 years (Stats NZ). Looking across the district, Waimate town has a significantly older average age of 49 years in 2020 when compared to the outlying rural areas. This makes sense as people are living and working on farms then moving into Waimate for retirement later in life.

The medium growth scenario projects the District's population to increase to 9,000 by 2050. Based on the medium projection, the population of the Waimate District is projected to grow by, on average, 0.4% a year between 2017 and 2050. This is less than the projected 1% a year growth rate of the Canterbury region and New Zealand's total population.

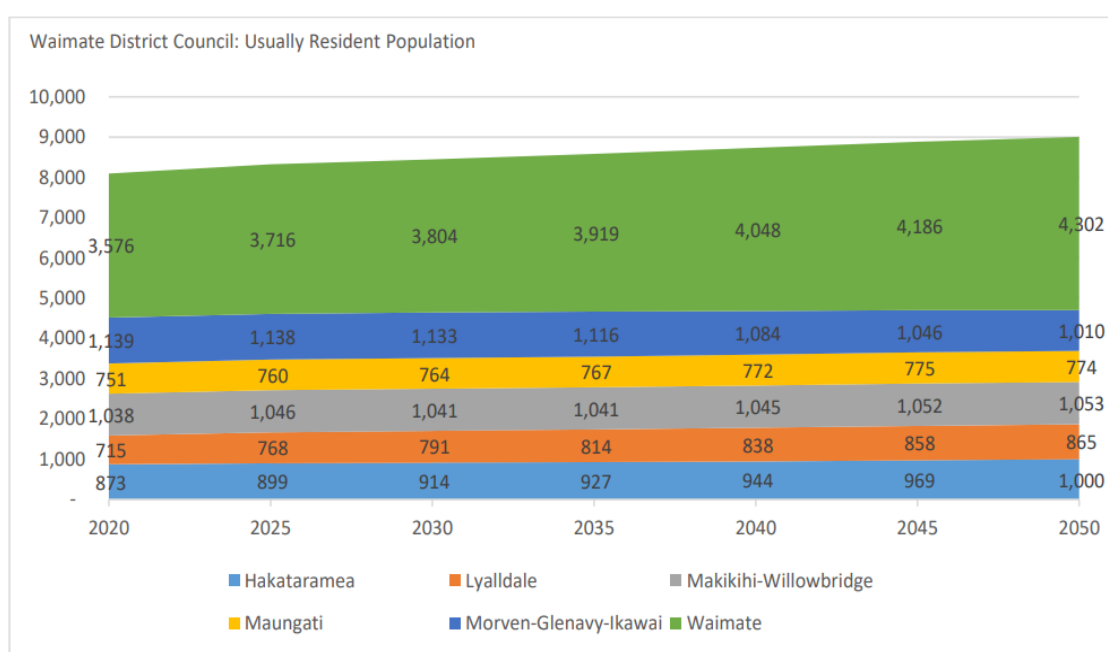


Figure 26 Waimate Population Projections

5.2 Economic activity

The other factor that has a large determinative effect on the volume of waste produced is industrial activity and economic conditions as measured by the Gross Domestic Product (GDP). In 2022, the impact of COVID-19 on the regional economies has been varied. Canterbury's underlying activity in the manufacturing, construction and agricultural sectors has provided some protection to the regional economy from COVID-19 impacts. The impact on tourism has been more significant although this impacts pockets of South Canterbury such as Tekapo and Twizel. The changes to the regional GDP are summarised as follows¹:

- Canterbury's GDP in the year ended March 2021 (latest available) was \$41 billion. This represents 13% of national GDP (compared with 17% of land area and 13% of national population).
- Canterbury's percentage change in GDP 2016-2021 was 24%, the third lowest percentage growth out of the regions, below the national level of 28%. Bay of Plenty had the highest percentage growth of 45% between 2006-2021.
- Canterbury's GDP grew by 1.1% in the year to March 2021, lagging behind growth rates in eight regions but close to the national GDP increase of 0.8%. Two regions experienced negative growth (Taranaki and Otago). In the previous year (to March 2020), Canterbury's GDP increased 4.7% and national GDP increase was 5.4%.
- Canterbury's GDP per person (March 2021) was \$63,523, just below the national GDP per capita (\$63,955) and much lower than GDP per person in Auckland (\$70,952) and Wellington (\$75,319)
- Over the decade 2011-2021, however, average annual per cent growth in GDP per person was higher in Canterbury (3.7%) than Wellington (2.7%), Auckland (3.7%) and New Zealand (3.2%). All regions experienced a negative growth in GDP per person from 2020 to 2021 (year ended March 2021).
- In the year ended March 2020 (latest available), manufacturing contributed 11% of Canterbury's GDP. Of this, primary manufacturing contributed 64%, other manufacturing 36%. Manufacturing contributes 9.8% of the national GDP, construction contributed 8.4% of regional GDP, (7% nationally) and professional, scientific and technical services 7.8% (8.3% nationally).

When considering future waste projections, economic growth in Canterbury has been considered in addition to the population growth in the region.

5.3 Waste from other areas

The policy, services, and facilities of one district or region can dramatically impact on demand for services in neighbouring districts. This is well demonstrated in other parts of New Zealand, where policy and/or pricing changes have a direct relationship on waste movements between districts. The location and pricing of landfills and transfer stations will have an effect on the amount of waste received by them. Pricing and location are the key causes of waste movement between districts.

For Mackenzie District, private out of district waste comes into the transfer stations mainly from the Waitaki District, with Omamara township and Lake Ohau Village neighbouring Twizel. Currently the Waitaki District Council provides an opt in kerbside service in Lake Ohau Village only. Commercial waste from out of district includes several of the large campgrounds in Waitaki that have commercial waste services.

As noted previously, materials received from Councils' kerbside collection or facilities would eventually be

¹ **Canterbury** wellbeing overview, August 2022, Canterbury Mayoral Forum

transported to Redruth for processing or disposal. Redruth landfill is a Class 1 landfill that also receives waste materials from out of district and private sectors. Changes to gate fees at Redruth and upgrades to Councils' facilities may reduce waste volumes received. Collaboration on diversion infrastructure could also help in future proofing diversion.

5.4 Community expectations and consumer behaviour

In the 2020 Colmar Brunton Better Futures report, the build-up of plastic in the environment and too much waste/rubbish generated, were ranked two of the top concerns for New Zealanders. If waste minimisation objectives continue to be important to the community, demand will continue for kerbside collection of recyclables and there will be increased demand for the collection of other recoverable materials as well as the associated processing infrastructure. There may be increasing pressure on existing resource recovery centres to expand their capacity and, if these objectives are to be met, there is likely to be a need for refuse transfer stations not currently providing recovery services to improve their operations. This could include expanding support for reusables and product stewardship schemes.

Consumer behaviour is a key driver for household waste generation in particular. OECD research indicates that there are a number of factors that influence household waste generation including:

- family composition, e.g. household numbers and children
- household income and size
- attitude toward the environment, consumption and recycling
- presence of volume-based charging systems for waste
- frequency of waste collection
- technological shifts and product supply changes
- increased product packaging
- presence of infrastructure and services to enable resource recovery
- changes in work-from-home dynamics.

These issues are the target of a range of council and government policies and programmes, both at a local and national level. Although contributing factors such as family size and household income are difficult to influence, there are positive correlations between attitude toward the environment and waste generation that can be influenced. Other important factors are the presence of charging systems, such as user-pays schemes and other economic disincentives such as waste levies.

Another example of how these factors can be influenced is through the establishment of product stewardship schemes for priority products (as outlined in Section 3.3).

5.5 Natural and man-made disasters

Natural and man-made disasters apply a different pressure upon waste services and other inter-related services by potentially creating a significant volume of waste, which may be contaminated, in a very short timeframe. The earthquakes in Christchurch and Kaikoura, the Covid-19 pandemic, Cyclone Gabrielle and the Auckland floods re-emphasise the need for planning. Lessons can be learnt from these events to assist in preparing for future natural disaster events in South Canterbury such as the need to provide additional capacity at transfer station and disposal facilities at short notice.

5.6 Future demand for waste facilities and services

Taking the above demand drivers into account, there will be continued pressure on existing waste management and minimisation infrastructure and services.

There is adequate Class 1 landfill disposal capacity in the medium to long term. Redruth Landfill is consented until 2030 and has sufficient space to continue accepting waste at current rates until 2050.

With limited information on the available Class 2-4 landfill facilities, the future capacity of these is unknown. There may continue to be pressure to dispose of C&D material and lightly contaminated soils at Redruth Landfill, when alternative sites are unavailable. In addition, cost-effective resource recovery alternatives are not currently available for C&D materials.

The Redruth processing facilities have capacity to accept all material from the South Canterbury sub-region in the medium to long term, with the potential to also accept volumes from neighbouring council areas.

Projected population growth means there will be increasing demand over time on Councils' kerbside collection services, transfer stations and RRP. These demands can be met through expansion of collection fleets and existing transfer stations.

5.7 Projected waste volumes

The total waste volume in South Canterbury will continue to grow based on the factors covered earlier in this section. There are no known capacity issues which would prevent waste being collected. However, there are opportunities to reduce residential waste to landfill based on the diversion potentials identified in Section 4.4. Anticipated waste and diverted material have been projected up to 2050. The projection is focused on waste streams that Councils will control, and the plans Councils have to support waste minimisation.

Figure 27 to Figure 29 show the refuse collection projection of each council. Historically in the South Canterbury region, waste growth has aligned with population growth. Waste volumes have remained relatively steady, as has the subregion's population. The future refuse collection projection is based on the expected population growth (0.5% for TDC and WDC, 1.4% for MDC). This means that under the status quo scenario, the future refuse collection per person remains constant throughout the projection period. If in future waste growth decouples from population growth, then the status quo scenario would see waste per capita increase or decrease, in line with economic growth.

The Councils' intention aligned with the NZWS is to reduce the amount of material that needs final disposal, by 30 per cent per person by 2030. As a result, the projection after interventions shows a decrease in refuse collection of 30 per cent by 2030. The new associated Council targets are:

- Timaru District – from the current level of 130kg per capita to **91kg per capita per year**
- Mackenzie District – from the current level of 100kg per capita to **70kg per capita per year**
- Waimate District – from the current level of 112kg per capita to **78kg per capita per year**

The targets are deliberately ambitious, which in turn will encourage the successful and effective implementation the options identified.

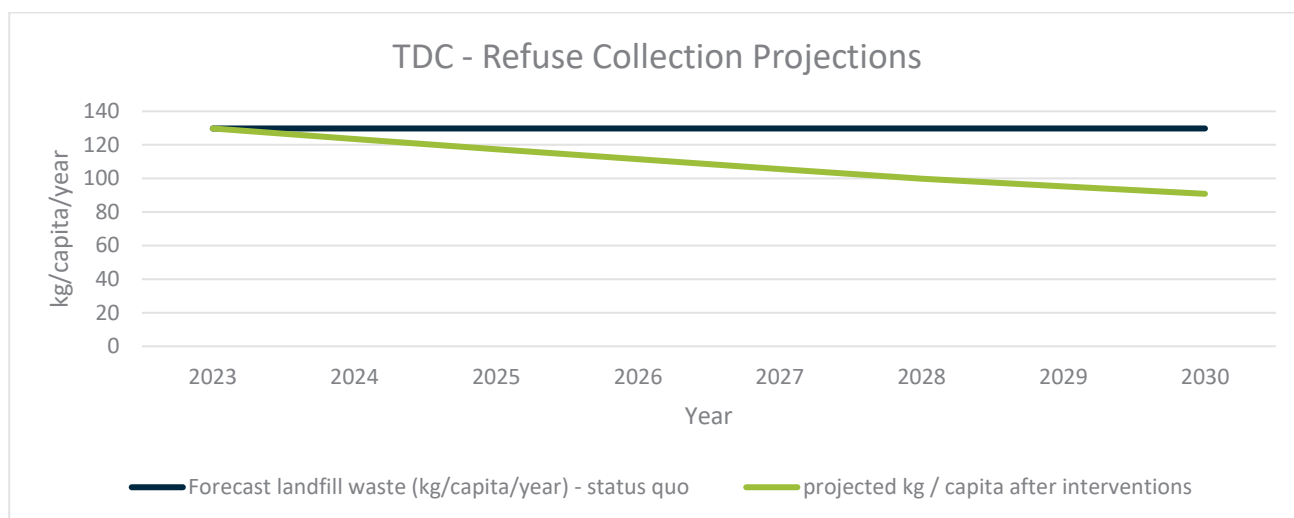


Figure 27 TDC – Kerbside Refuse Collection Projections

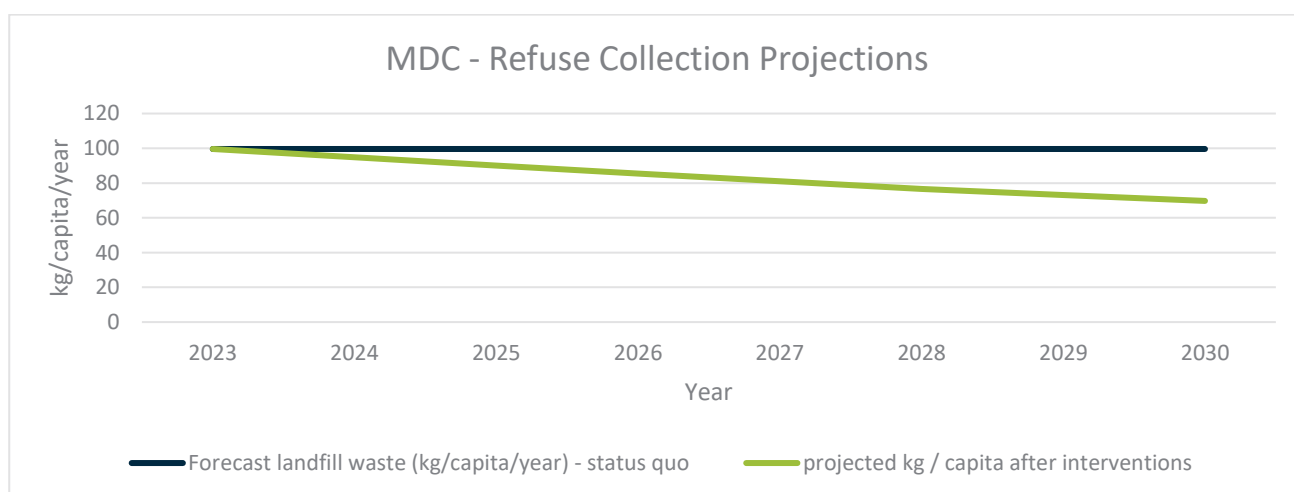


Figure 28 MDC – Kerbside Refuse Collection Projections

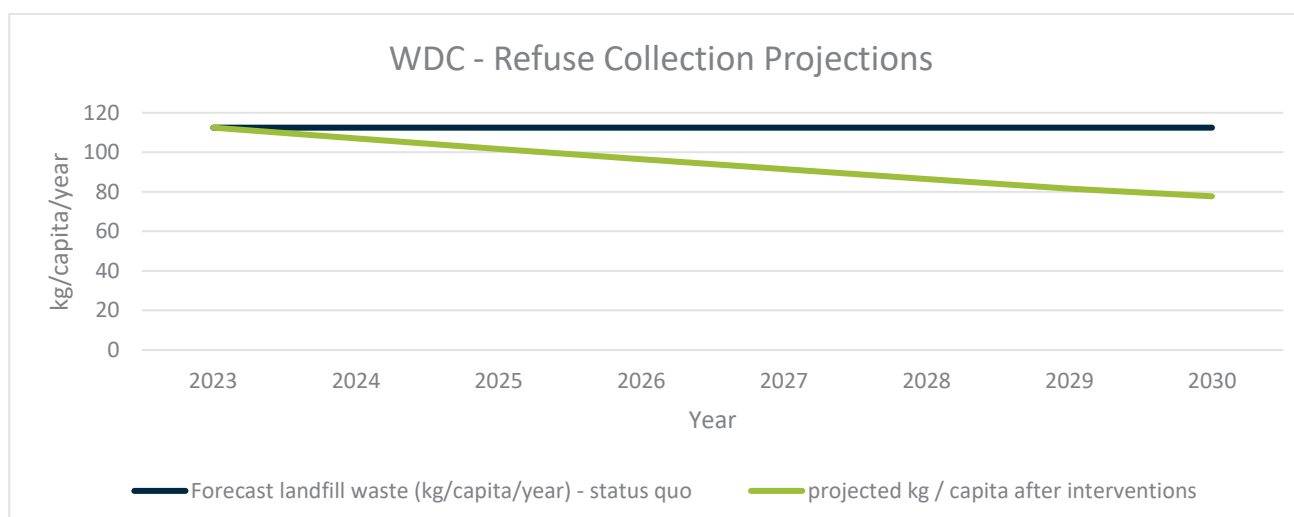


Figure 29 WDC – Refuse Collection Projections

6 Future Planning Framework

This section considers the Councils' direction with regards to vision, goals, objectives, and targets for achieving waste reduction and for meeting the forecast demand for services in South Canterbury. The vision and targets discussed in this Waste Assessment have been derived from looking at the existing 2018 WMMP and the NZWS.

6.1 Vision

The Councils vision for waste minimisation and management is aligned with the NZWS:

“By 2050, the South Canterbury Region is a low-emissions, low-waste society built upon a circular economy”

6.2 Goals and objectives

The Councils have adopted the NZWS 2030 goals and developed South Canterbury objectives that support the achievement of these goals. The NZWS states that “By 2030, our enabling systems are working well, and behaviour is changing”. The NZWS goals and South Canterbury objectives are shown in Table 6.

Table 6 NZWS goals and South Canterbury objectives

#	NZWS Goals	South Canterbury Objective
1	Systems The strategic planning, regulatory, investment and engagement systems are in place and operating to drive and support change	Implement new national planning, regulatory, investment and engagement systems to continue to drive change in South Canterbury.
2	Infrastructure We have a comprehensive national network of facilities supporting the collection and circular management of products and materials	- South Canterbury facilities, both Council and private, support collection and circular management of products and materials in the sub-region. - Local planning provisions support the circular economy.
3	Responsibility and accountability We all take responsibility for how we produce, manage and dispose of things, and are accountable for our actions and their consequences	Deliver behaviour change programmes in South Canterbury to increase awareness and accountability for waste minimisation.
4	Using less We use fewer products and materials, and use them for longer, by making them more durable, and repairing, reusing, sharing and repurposing them	Support local redesign, repair, reuse, sharing and repurposing initiatives.
5	Resource recovery systems Resource recovery systems are operating effectively for core materials and across all regions	Existing kerbside services and resource recovery facilities enable core materials to be collected across South Canterbury.²

² There is sufficient capacity to meet project growth. As the region grows the location and number of facilities will need to be reviewed to identify any future sites and address any adverse effects from current facilities.

#	NZWS Goals	South Canterbury Objective
6	Recovering value We look for ways to recover any remaining value from residual waste, sustainably and without increasing emissions, before final disposal	Look to recover any remaining value from residual waste prior to disposal at Redruth Landfill.
7	Emissions Emissions from waste are reducing in line with our domestic and international commitments	- Reduce organic waste production and disposal in South Canterbury, from both residents and businesses. - Maintain landfill gas capture systems at Redruth Landfill.
8	Contaminated land Contaminated land is sustainably managed and remediated, to reduce waste and emissions and enhance the environment	- Identify and sustainably manage contaminated land in South Canterbury, including vulnerable landfills. - Reduce the volume of soil disposal at Redruth Landfill.

6.3 Targets

Table 7 outlines the Councils' waste minimisation targets, aligned to the targets set out in the NZWS.

Table 7 South Canterbury waste minimisation targets

NZWS target	Local annual target (kg per capita, tonnes, %)	TDC		MDC		WDC	
		Baseline 2022	Target 2030	Baseline 2022	Target 2030	Baseline 2022	Target 2030
10% reduction in waste generation	Total kerbside material	480 kg per capita ³	436 kg per capita	293 kg per capita	264 kg per capita	431 kg per capita	388 kg per capita
	Total material received RRP	9,050 tonnes ⁴	<9,050 tonnes	3,150 tonnes	<3,150 tonnes	1,400 tonnes	<1,400 tonnes
30% reduction in final disposal	Kerbside refuse collection	130 kg per capita	91 kg per capita	100 kg per capita ⁵	70 kg per capita	112 kg per capita	78 kg per capita
	% contamination in kerbside organics, glass and recycling	Organic <1% Glass <1% Recycling 11%	Organic <1% Glass <1% Recycling <10%	Organic <1% Glass <1% Recycling 6%	Organic <1% Glass <1% Recycling <10%	Organic <1% Glass <1% Recycling 3%	Organic <1% Glass <1% Recycling <10%
	% contamination Redruth MRF	23.3%	<10%	n/a	n/a	n/a	n/a
	Redruth Landfill disposal – from RRP ⁶	5,100 tonnes	3,570 tonnes	1,900 tonnes	1,330 tonnes	360 tonnes	250 tonnes
30% reduction in biogenic methane emissions	% organics in kerbside rubbish collection	36%	25%	47%	25%	40%	25%
	% organics received at Redruth Landfill	Approx. 50%	25%	n/a	n/a	n/a	n/a

³ Calculation of kg per capita is based on estimate of service entitled population.

⁴ Covering Geraldine, Pleasant Point and Temuka transfer stations and Redruth Resource Recovery Park.

⁵ Based on 12 months data (Apr-22 to Mar-23) since the introduction of organics collections.

⁶ Based on 2022 data at Redruth Landfill. Tonnage covers all disposable materials via councils' facilities.

7 Options Assessment (Statement of Proposals)

This section identifies the waste minimisation issues and opportunities for South Canterbury. It then presents the guiding principles that will be applied when considering intervention options for the Councils. Finally, it presents an options assessment that considers practicable options to address future demand for waste management and minimisation services and programmes in South Canterbury to address the opportunities that have been identified.

7.1 Waste issues and opportunities for South Canterbury

Waste issues and opportunities for South Canterbury have been identified based on:

- The goals and targets within the NZWS.
- Composition and quantities of waste in the Councils' collection services and facilities, and TDC's Redruth Landfill.
- Progress against the Councils' previous WMMP Action Plans.

The following key issues and opportunities are identified as needing to be addressed in the Councils' next WMMPs to meet the national targets set in the New Zealand Waste Strategy.

Recover more from kerbside waste streams

The recent SWAP analysis shows that there is still a high proportion of potentially divertible material in the kerbside refuse bin. Despite the introduction of organic collection service, the proportion of organic waste continues to remain high in the kerbside rubbish bin for all three councils, approximately 40%. While not as significant, recyclable materials still represent roughly 20% of the refuse bin's content.

Potential solutions: greater education and enforcement are required to ensure residents use the services correctly. This could include regular audits of the refuse bin. TDC previously considered providing a kitchen caddy (currently available for individual purchase) but have opted for FOGO and encourage food waste wrapped in newspaper. MDC and WDC are considering providing a kitchen caddy to promote food waste disposal. There may also be an option for the Councils to consider providing a separate food waste bin to separate food scraps out from green waste. Residents can also compost food waste at home, establish a worm farm, or feed the food waste to hens or other animals.

Better service rural and business customers

Some rural residents, and businesses customers (hospitality and accommodation providers specifically) do not have the same access to a comprehensive four-stream collection service that urban residents do. Noting service differences for each Council. There is an opportunity to divert more by looking at alternative collection systems that meet their needs.

Potential solutions: Canterbury Waste Joint Committee and Environmental Canterbury have been exploring waste minimisation initiatives for rural properties. Councils can continue to engage and support regional initiatives. Some rural households and businesses use private waste collectors; the Councils could require all waste collectors to provide recycling and organic collections with a refuse collection service. The Councils could expand their current service to include rural or business customers as a way of increasing service coverage (review collection areas or service all premises). Alternative collection options could also be explored to create services that are more appropriate for these customers. Note that currently businesses can opt-in to the council kerbside service if it meets their needs.

Target improved recycling behaviour during peak visitor and tourist periods, particularly in the Mackenzie District

MDC is experiencing increased volumes across all four collection streams and volumes at its RRP's due to tourist returning to areas such as Tekapo, Twizel and Aoraki/Mount Cook, and New Zealand holiday makers using holiday homes, contributing to the spike in waste around long weekends, school holidays and public holidays. There is a need to ensure these tourists and holidaymakers can use these services as effectively as the usually resident population.

Whilst it is reasonable to assume that TDC and WDC were not impacted to the same extent, the Councils need to work collaboratively to address localised demand at peak times as the Councils' waste services are provided by the same service provider with shared resources.

Potential solutions: Targeted education programmes for the tourism sector, working closely with tourist operators and accommodation providers, with a focus on waste minimisation and correct use of the services provided. Refer Appendix D for Case Studies.

Support diversion activities for C&D waste

There is a high proportion of divertible material including soil and C&D waste disposed at Redruth landfill. Separation of C&D waste and timber has been tried at Redruth in the past and found not to be cost-effective. Any future solution needs to be supported by sustainable markets.

There is a lack of visibility of the alternatives available in South Canterbury to Class 1 landfill disposal, i.e. C&D waste diversion or Class 2-4 landfills.

Potential solutions: Work with Environmental Canterbury and industry to develop alternative solutions for C&D waste and soils. This could include the use of the Council's Resource Recovery Parks or Redruth facilities as part of these solutions. Develop sustainable markets for diverted material such as treated timber. There is an opportunity to educate industry and to provide services at the facilities to reduce, re-use, or recycle a proportion of this waste.

Divert more organic material from landfill

Although organic waste is not accepted at Redruth landfill there is still a high proportion of organic within the waste stream disposed at Redruth (as per kerbside SWAP analysis data). Organic waste is the source of biogenic methane emissions which have been targeted for reduction as part of the National Waste Strategy. TDC have been investing in gas capture systems to reduce emissions. However, further initiatives should be introduced to ensure organic waste is not disposed to landfill.

Potential solutions: Ensure all private waste operators provide separate organic collection services. Greater enforcement of the acceptance criteria at Redruth landfill.

Promote upstream waste hierarchy and circular economy principles

Currently, there are limited local circular initiatives promoted by businesses or the Councils. There is an opportunity to provide support to national initiatives delivered locally or to enable local circular initiatives to be developed.

Potential solutions: Continue to collaborate with neighbouring councils, outside South Canterbury, particularly via the Canterbury Waste Joint Committee. Ensure that the Councils support all product stewardship schemes as they are introduced, providing facilities for diversion at all RRP's. To encourage behavioural change, there are opportunities for the Councils to strengthen their public awareness campaigns. These campaigns could be in conjunction with initiatives developed by EnviroNZ.

7.2 Guiding principles

In developing options, Councils will be guided by the following principles:

- Addressing legislative requirements
- Recognition of Kaitiakitanga/stewardship
- Application of circular economy principles
- Allowing for integration of technology
- Behaviour change is required to minimise waste, and convenience influences behaviour
- Encouraging innovation
- Leading by example

7.3 Options assessment

Table 8 presents options that the Councils could introduce to address the issues and opportunities presented in Section 7.1. The options cover influence, regulation, and service provision approaches. The options are then assessed against their ability to meet waste minimisation targets, costs, and ease of implementation. The options recommended to be taken forward are also highlighted.

Table 8 Options to address future opportunities for South Canterbury

Opportunity	Description	Approach	Options	Aligns with vision, goals and objective	Cost	Ease of implementation	Commentary	Recommended
Achieve 10% reduction in generation of waste								
Promote upstream waste hierarchy and local circular economy principles	Options to raise awareness of circular economy principles for businesses' products and services.	Influence	Promote and advocate the concept of circular economy to businesses.	High	Medium	Relatively simple	Lead initiatives to promote local circular economy initiatives by businesses. Raise awareness of the benefits of a circular economy approach, where circularity is promoted over downcycling. Host events that are industry specific to share good practices. Attract and retain industry participants (e.g. current reusables project) Provision of circular economy educational programmes and toolkits for businesses.	Yes
	Continue to collaborate across the region for the development of facilities and schemes to support greater diversion of material from landfill.	Influence	Continue to work with the Canterbury Waste Joint Committee and Environmental Canterbury on initiatives to further reduce waste to landfill and provide regional facilities. Support waste minimisation initiatives for rural properties. Support regional C&D diversion facilities or alternative consented cleanfill sites.	High	Low	Medium	The South Canterbury councils are active members of the existing committee. To date several initiatives have been funded by the member councils to support waste minimisation and diversion programmes. Current programmes include determine what regional facilities are required and what different waste streams should be targeted for diversion. How best to service rural properties.	Yes
	Support product stewardship schemes as they are introduced by providing facilities to separately collect the material. Options to further divert waste from landfill targeting a full range of waste streams	Service	Continue to investigate and identify stable markets for the diversion of other waste streams. Determine the feasibility of collecting and diverting other waste streams at RRP and supporting existing and any new product stewardship schemes.	High	Medium	Medium	As new stable markets become available, and more product stewardship schemes are introduced ensure the RRP can collect and divert this material. This is current practice in collaboration with EnviroNZ Services who operates the RRP (example is current polystyrene recovery).	Yes
Achieve 30% reduction in final disposal								
Recover more from kerbside waste streams	Options to further divert waste from landfill targeting behavioural change	Influence	Provide information to customers on how to responsibly dispose of organic and recyclable waste.	High	Medium	Relatively simple	Continue to fund and promote waste education programmes that encourage waste minimisation behaviour. Examples could include: - General education – Positive messaging and taking a more marketing approach to communicating the Councils' goals and strategic directions. - Service specific – Reinforce the correct way of using Council recycling/organic collection services and the concept of how individuals could contribute towards a circular economy. Develop additional educational materials once product stewardship & container return schemes are introduced. Councils could possibly engage and work with external education providers to develop targeted education programmes. This will be informed by Councils' WMMP once developed.	Yes
		Regulate	Restrict/ban specific types of waste in kerbside refuse wheelie bins.	Medium	High	Complex	While simple in theory, this option requires the development of a bylaw and requires compliance costs that may end up unnecessarily consuming time and resources. This is because the source of the non-compliance will be difficult to determine with the certainty required to enable infringement notices/fines to be issued. Bans have been introduced by some councils to encourage residents to separate their recycling from refuse. Formalising this and ensuring compliance would be complex. There will be high costs associated with the drafting of the appropriate policy/bylaw, consultation, hearings and socialisation of such a ban.	Yes
		Influence	Investigate the recoverability of materials that are currently not recoverable	Medium	Medium	Medium	Increases opportunities for the diversion of materials that are not currently getting diverted through kerbside refuse collection (e.g. fabrics).	Yes

Opportunity	Description	Approach	Options	Aligns with vision, goals and objective	Cost	Ease of implementation	Commentary	Recommended
Better service rural and business customers	Options to support waste diversion for rural communities and businesses in town centres.	Influence	Provide information to customers	Medium	Low	Relatively simple	Education and information sharing is an on-going approach that Councils use, this can also be supported by EnviroNZ under the current contract. Tailored communication with a focus on the needs of rural and commercial customers would help.	Yes
		Service	Continue to undertake optioneering and feasibility study of expanding the collection area or introducing new services	Medium	High	Complex	Review extending the collection services to these customers or introducing bespoke collection services or drop-off points (noting each councils current services).	Yes
		Influence	Develop education package for customers	High	Medium	Relatively simple	Based on the outcome of the service option above, this could be an extension to the current education service provided but targeted at rural and commercial customers to utilise Councils’ facilities.	Yes
Target improved recycling behaviour during peak visitor and tourist periods	Options to manage increasing service demand arising from tourism activities	Service	Continue providing targeted public place refuse and recycling bins	Medium	Medium	Relatively complex.	Provision of additional or replacement refuse and recycling bins will be targeted at high impact areas. E.g. near service stations, shops, supermarkets and in locations that will encourage use of the facilities.	Yes
		Service	Continue to provide peak period service to meet increasing service demand	Medium	High	Medium	MDC currently provides an extra red bin collection for Tekapo and Twizel during the Christmas/ New Year’s period. Further changes to be considered in discussion with EnviroNZ.	Yes
Support diversion activities for C&D waste	Options to support the C&D industry to minimise C&D waste from design to construction, in turn reducing C&D waste to landfill	Influence	Proactively collaborative with industry to change behaviours via education and promotion of waste minimisation.	Medium	Low	Relatively simple	Working across the region will have benefits in reducing construction and demolition waste. Waste minimisation activities such as waste separation, recycling of materials and beneficial reuse can be promoted.	Yes
		Influence	Support the implementation of changes to building consent process requiring waste minimisation plans.	Medium	Medium	Relatively simple	Central Government is driving change to building practices to support waste diversion. Councils need to support these changes.	Yes
		Regulate	Bylaw to enforce reporting of C&D material movements	High	Medium	Medium	A bylaw would require increased resources for administration and enforcement. Need a simple approach to enforce bylaws and ensure compliance.	Yes
		Influence	Continue to learn about, share and promote industry best practice in managing C&D waste	Medium	Low	Relatively simple	Establish relationships with large organisations that manage C&D waste to understand the support they might need and promote their practices. Look to introduce opportunities that would enable local knowledge-sharing to occur e.g. industry forums, publishing and promoting good practice case studies.	Yes
		Service	Monitor the quality and quantity of C&D wastes at Council facilities to gain a greater understanding of the types and quantities of material that could be diverted.	Medium	Low	Relatively simple	Would require increased administrative resources to undertake the monitoring. The end market of the diverted materials will also need to be monitored to ensure they have been reused/recovered as intended. The type of materials to be accepted at transfer stations and RRP’s needs to consider the demand of the end market. It is noted that EnviroNZ is about to commence the separation of timber at Councils’ facilities and processing polystyrene at Redruth.	Yes
		Service	Investigate local or regional C&D waste recovery options	High	Medium	Medium	While the use of C&D waste recovery facilities could be promoted and encouraged, these options need to be economically viable for their users. Councils could initiate a feasibility study to gain a further understanding of the flow of C&D wastes within the region. However, progression beyond the feasibility stage would need to take into account the existing availability of regional C&D waste recovery options and where an additional site in Canterbury might support this network. The end market of recovered materials would also need to be considered.	Yes
30% reduction in biogenic methane emissions								
Recover more from kerbside waste streams	Options to further divert organic waste from landfill	Service	Providing a kitchen caddy for food scraps that are then emptied into the existing organic bin	Medium	Low	Medium	Council could provide a kitchen caddy to residents to make it easier to divert food scraps from refuse. Kitchen caddies are relatively cheap to provide. They could either be provided to all household or available for purchase at council service centres. Different opinions around how effective this initiative is at diverting more organic from refuse.	(TDC) No (MDC and MDC) TBC

Opportunity	Description	Approach	Options	Aligns with vision, goals and objective	Cost	Ease of implementation	Commentary	Recommended
		Service	Provide a separate food waste collection service	High	High	Complex	Implementation of an additional collection service would require a variation to the existing long term collection contract. A four bin service is already available, providing a five bin is likely to be negatively received by customers.	No (all Councils)
Divert more organic from landfill	Options to support the organic separation from waste collected by private waste operator.	Regulate	Bylaw requiring all private waste operators to provide a separate collection of organic and recycling or restrict the acceptance of waste at Redruth Landfill if it includes organic.	High	Low	Complex	A bylaw would require increased resources for administration and enforcement. Would require all waste operators to register either nationally or locally. Need a simple approach to enforce bylaws and ensure compliance.	TBC



Appendix A Letter from Medical Officer of Health

11 August 2023

Catherine Irvine
Waste Manager
Timaru District Council
PO Box 522
TIMARU 7940

Dear Catherine,

RE: South Canterbury Waste Management and Minimisation Plan 2024

Thank you for inviting the Medical Officer of Health to comment on the Timaru District Council Waste Assessment as required by the Waste Minimisation Act 2008.

Te Mana Ora (formerly Community and Public Health) is supportive of the Draft South Canterbury District Councils' District Waste Management and Minimisation Plan (WMMP). We acknowledge that feedback from the Medical Officer of Health on the previous draft Waste Assessments has been included in the draft Waste Management Minimisation Plan 2023.

Again, thank you for your work in managing this important service which has significant public health value to the South Canterbury community. If you require further information please, in the first instance, contact one of our Health Protection Officers at our Timaru office.

Yours sincerely,



Matthew Reid (he/him/ia)

Āpiha tākuta mō te hauora | Medical Officer of Health

Te Mana Ora | Te Waipounamu | National Public Health Service

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Te Kāwanatanga o Aotearoa
New Zealand Government

Appendix B Legislation

The Waste Minimisation Act (WMA) 2008 -

<https://www.legislation.govt.nz/act/public/2008/0089/latest/DLM999802.html>

Climate Change Response Act 2002 and amendments -

<https://www.legislation.govt.nz/act/public/2002/0040/latest/versions.aspx>

The Local Government Act 2002 (LGA 2002) -

<https://www.legislation.govt.nz/act/public/2002/0084/latest/DLM170873.html>

The Resource Management Act 1991 (RMA) -

<https://www.legislation.govt.nz/act/public/1991/0069/latest/DLM230265.html>

Other legislation

The following is a summary of other legislation that is to be considered with respect to waste management and minimisation planning.

The Hazardous Substances and New Organisms Act 1996 (HSNO Act) -

<https://www.legislation.govt.nz/act/public/1996/0030/latest/DLM381222.html>

The Health Act 1956 –

<https://www.legislation.govt.nz/act/public/1956/0065/latest/whole.html>

The Litter Act 1979 -

<https://www.legislation.govt.nz/act/public/1979/0041/latest/DLM33082.html>

The Health and Safety at Work Act 2015 (HSWA) -

<https://www.legislation.govt.nz/act/public/1979/0041/latest/DLM33082.html>

Urban Development and Building

Various pieces of policy and legislation in the development and construction sector will have an indirect impact on the management and impact of construction and demolition waste. The National Policy Statement on Urban Development 2020 has objectives and policy statements on sustainability, including reduction in greenhouse gases. Amendments to the Building Act (2019) and (2021) are designed to drive product stewardship, the recording of product information and support the use of new, innovative and efficient building methods.

Other legislation

Other legislation that relates to waste management and/or reduction of harm, or improved resource efficiency from waste products includes:

- Biosecurity Act 1993
- Radiation Protection Act 1965
- Ozone Layer Protection Act 1996
- Agricultural Chemicals and Veterinary Medicines Act 1997

Appendix C Closed Landfill Site List

Mackenzie District Council Closed Landfill Sites
Twizel Closed Landfill
Tekapo Closed Landfill
Fairlie Closed Landfill
Burkes Pass Closed Landfill
Albury Closed Landfill
Haldon Closed Landfill

Timaru District Council Closed Landfill Sites
Arundel Rangitata Rd Closed Landfill - LLUR Site 132
Ashbury Park Closed Landfill - LLUR site 357
Aynsley St Closed Landfill - LLUR Site 356
Beach Rd (Seadown) Closed Landfill - LLUR site 282
Beck Road (Pleasant Point) Closed Landfill - LLUR Site 278
Coastal Caledonian Closed Landfill (Patiti Point) - LLUR site 359
Craigie Road Closed Landfill - LLUR site 275
Divan Rd Car Yard / Dump - LLUR Site 334
Ellis Road Dump Closed Landfill - Strathallan County Maps DMS 141045.
Eversly Street Closed Landfill - LLUR No. 358
Falveys Corner Closed Landfill - LLUR Site 350
Landsborough Road Closed Landfill - LLUR Site 352
Lough St Closed Landfill - LLUR site 355
Maori Reserve Road Closed Landfill - LLUR Site 342
Maude Street Closed Landfill - LLUR site 332
Milford Huts Closed Landfill - LLUR No 335
Mill Road Closed Landfill - LLUR site 336
Orari Closed Landfill - LLUR Site 340
Pareora Closed Landfill - LLUR site 279
Peel Forest Closed Landfill - LLUR Site 274, (on Crown land)
Pleasant Valley Road Closed Landfill - LLUR Site 346
Pudjeck Rd Closed Landfill - LLUR No 351
Rangitata Huts Closed Landfill - LLUR Site 270
Redruth Closed Landfill - LLUR site 276
River Road Closed Landfill - LLUR Site No 348, (Says 381 River Road this is 481)
Rolleston Road Closed Landfill - LLUR No 341
Russell Square Closed Landfill - PRE: 1880
Te Moana Rd (GERALDINE) Closed Landfill - LLUR site 2367 and 2275
Temuka Closed Landfill - LLUR Site 86
Temuka Closed Landfill - Soil Remediation Site (Hardfill)
Toomeys Bridge Closed Landfill (Geraldine Flat) - LLUR Site 347
Washdyke Closed Landfill - LLUR No 354
Winchester Closed Landfill No. 1 - LLUR Site 344
Winchester Closed Landfill No. 2 - LLUR site 345

Waimate District Council Closed Landfill Sites
Glenavy Closed Landfill on Te Maiharoa Road Glenavy
Makikihi Closed Landfill on Hook Swamp Road, Makikihi
Waimate Closed Landfill on Racecourse Road, Waimate
Waihao Closed Landfill on State Highway 82, Waihao Downs, Waimate
Hook Closed Landfill on Waimate – Hunter Road, Waimate
Otaio Closed Landfill on Backline Road, Bluecliffs, Waimate
Upper Pareora Closed Landfill on Backline & Motukaika Road, Pareora
Morven Closed Landfill on Morven Beach Road, Morven.

Appendix D Tourism role in waste minimisation

The two following case studies spotlight how council messaging and tourism businesses can promote minimisation and recycling in the sector. These are the types of initiatives implemented elsewhere that could address MDC's issue with low recycling rates during peak tourist periods.



Spotlight: Cardrona Alpine Resort

Cardrona Alpine Resort is an example of how tourism operators can tackle waste. First, they took away single-use plastic bottles in 2019 and then removed all refuse bins from their resort in 2021.⁷

This was made possible via two means. Firstly, they removed all refuse bins and replaced them with recycling and compost bins only. Secondly, and more importantly, they coordinated with their suppliers to move to multi-use materials or recyclable packaging long before national plastics bans came into place. Any single-use plastics brought to their site must be taken away by the visitor.

A closer look at the circular economy for tourism operators



The Tourism Industry Aotearoa (TIA) published their Tourism 2025 and Beyond framework⁸ in 2019. The TIA provides industry data and research and highlights carbon, waste and ecological footprints as equal priorities for the industry. There are clear synergies for an organisation to reduce their emissions and environmental impact through reduced waste generation and increased diversion of recyclable and organics from landfill. TIA also initiated the New Zealand Tourism Sustainability Commitment which has a solid waste initiative specific to tourism businesses⁹.

There are opportunities to integrate waste minimisation with economic develop and tourism, Council could seek to influence the Mackenzie Tourism Industry Association (MTIA) to help integrate their waste management and minimisation plan into local tourism businesses.

⁷ For more information, see: <https://www.cardrona.com/content-hub/news/no-more-single-use-plastic-bottles/> and <https://www.cardrona.com/content-hub/news/no-landfill-bins-and-free-shuttles/>

⁸ See <https://www.tia.org.nz/tourism-2025>

⁹ See <https://www.sustainabletourism.nz/blog/solid-waste/>