Waste Management and Minimisation Strategy for Taranaki

Taranaki Regional Council

STRATFORD DISTRICT COUNCIL

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Waste Management and Minimisation Strategy for Taranaki

Taranaki Solid Waste Management Committee
August 2016

Document no. 1684217

Executive Summary

This document is the *Waste Management and Minimisation Strategy for Taranaki* (the Strategy). Its purpose is to set out a strategic framework by which the Taranaki Regional Council and three territorial authorities (New Plymouth, Stratford, and South Taranaki district councils) will help reduce and better manage waste in Taranaki for a ten year period (2011-2021). Details of how this Strategy will be implemented are set out in the waste minimisation and management plans of the districts.

This Strategy is the second strategy prepared for the Taranaki region. An interim review of the strategy was undertaken in 2016. With the enactment of the Waste Minimisation Act 2008 and the adoption of *The New Zealand Waste Strategy – Reducing Harm, Improving Efficiency* by the Government, Taranaki's four councils have completed a review of their Strategy to ensure it remains relevant and set out a strategic framework for Taranaki that will implement the Government's two high level goals for waste.

Strategy objectives, methods and targets address the two goals set out in the *New Zealand Waste Strategy* but they have been modified to reflect the Taranaki situation. Objectives, methods and targets have been grouped around the following issues:

- Waste minimisation and management planning.
- Efficient use of recyclables, organic waste, special waste, construction and demolition waste, and hazardous waste.
- Environmental effects associated with waste disposal facilities.
- Environmental effects associated with contaminated land.
- Monitoring and information.

Key methods set out in the *Waste Management and Minimisation Strategy for Taranaki* include:

- The review and implementation of district waste minimisation and management plans.
- Territorial authorities instituting a measurement programme to identify and monitor waste quantities being disposed of to landfill.
- Maintaining access to a single operational landfill (whether in Taranaki or elsewhere) that meets the disposal needs of the region while continuing to:
  - meet industry best practice standards
  - enforce the policy of non-acceptance of hazardous waste at landfills
  - divert inert material
  - be cost-effective.
- Transfer stations throughout Taranaki that provide:
  - cost incentives for the diversion of recyclables and green waste from landfill; and
  - a hazardous waste service in each district
- Appointment of a Regional Waste Minimisation Officer to facilitate implementation of the Strategy with a particular focus on advocacy, advisory and educational activities
- Information on previously unknown but potentially contaminated sites will be investigated and the site's risk categorised within 12 months of first being identified as potentially contaminated.

The Taranaki Regional Council and three territorial authorities aim to collectively meet the targets through their respective waste minimisation and management plans and or work programmes.

On behalf of the Taranaki Solid Waste Management Committee, I would like to thank all those individuals and organisations that contributed to the preparation of this document. In particular the contributions of the Taranaki Regional Council, the three territorial authorities, the Taranaki District Health Board, and those that submitted on the draft Strategy. I look forward to working with you in delivering better waste management outcomes for the region.

Councillor Neil Walker
Chair of the Taranaki Solid Waste Management Committee

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Strategy Review 2016

The Waste Management and Minimisation Strategy for Taranaki (the Strategy) adopted in 2011 identified that an interim review would be undertaken after five years to assess the implementation and the effectiveness of the Strategy.

This interim review conducted in 2016 has:

- Identified, evaluated and updated the region's achievement in implementing the Strategy.
- Considered the strategy's consistency with local, national and international policy environment.
- Ensured the document remains a relevant and useful tool for its purpose, including providing a strategic framework for the Territorial Authorities waste management and minimisation plans, and direction for the Waste Minimisation Officer.

The review has identified that programmes are in place to achieve most of the targets in the Strategy. The review of the targets is found below in Appendix II. The majority of methods listed in the Strategy have been employed and are relevant for the next five years. Small changes to reflect the current environment have been made.

Data, where available, has been updated throughout the document. The implementation of the kerbside collection contract in 2015, the impending closing of the regional landfill at Colson Road and the development of the Taranaki Regional Waste Minimisation Education Strategy 2013 has been incorporated into the Strategy. Our commitment to the nation-wide programmes Love Food Hate Waste and the National Waste Data Framework have been included.

A full review of the Strategy is planned for 2021.

1. Introduction

1.1 Purpose

This document is the *Waste Management and Minimisation Strategy for Taranaki* (the Strategy). It is the second Strategy prepared for Taranaki.[1] Its purpose is to set out the strategic framework for the effective management of wastes in the Taranaki region so as to:

- Minimise inefficient use of resources
- Avoid, remedy or mitigate the harmful environmental and health effects of waste disposal
- Ensure compliance with the Waste Minimisation Act with regard to the various obligations and functions of the region's three territorial authorities and the Regional Council
- Promote the hierarchy of reducing the generation, enhancing the recovery, re-use and recycling, and ensuring the safe ultimate disposal of wastes
- Give effect to the two national goals set out in the New Zealand Waste Strategy (NZWS).

1.2 Area covered by the Strategy

The Strategy has been prepared by the Taranaki Solid Waste Management Committee. This is a joint committee involving representation from the Taranaki Regional Council (TRC), New Plymouth District Council (NPDC), South Taranaki District Council (STDC), Stratford District Council (SDC) and the Medical Officer of Health. The Committee is charged with considering waste management issues in the Taranaki region.

The Strategy covers the Taranaki region, including that part of the Stratford district that lies in the Manawatu-Wanganui region (Figure 1).[2]

1.3 Duration and review

This Strategy is a ten-year document that will be reviewed by **30 June 2021**.

An interim review to assess the implementation and the effectiveness of the Strategy was completed in 2016. Should the Government decide to review its NZWS, a full review of the Strategy would be considered at that time.

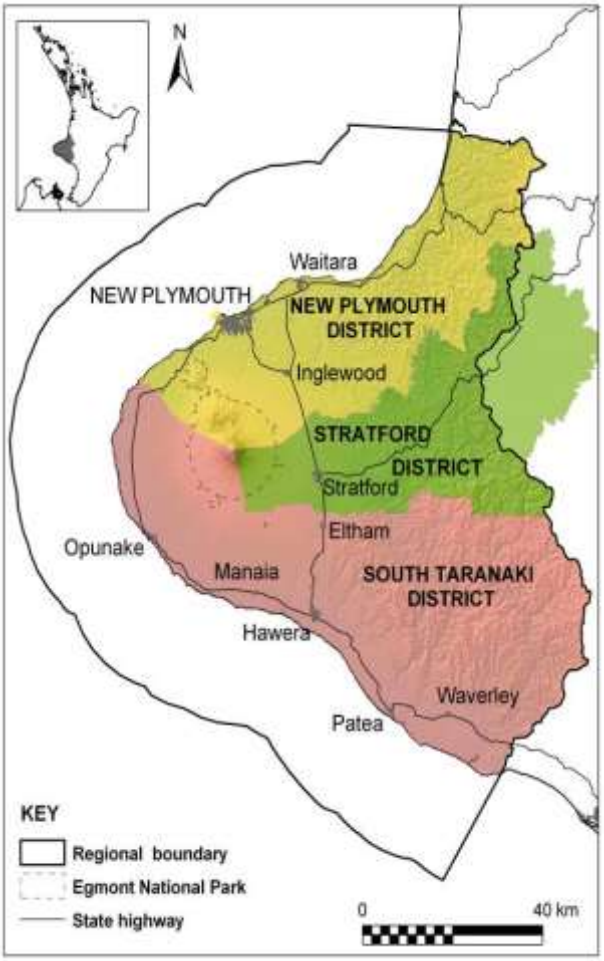

Figure 1: The Taranaki region

[1] The first Regional Waste Strategy for Taranaki was prepared in 2003.

[2] The SDC has agreed through a memorandum of understanding that the whole district is included in the Taranaki region for waste management issues.

1.4 Context

1.4.1 Problem definition

For most people, the term 'waste' describes materials or substances that are no longer needed or useable, or have lost their economic value and therefore require disposal.

Waste occurs in solid, semi solid, liquid and gaseous forms. In Taranaki, significant progress has been made on recovering and reusing recyclables such as paper, cardboard, plastics and glass. However, there remains significant opportunities for improvement in reducing and managing the following waste streams:

- Organic wastes.
- Special wastes (wastes requiring specific handling or treatment).
- Construction and demolition wastes.
- Hazardous wastes (wastes requiring special treatment to deal with the danger they otherwise pose, e.g. ignitability, reactivity, corrosivity and toxicity).

There is a need to minimise the amount of waste generated so as to minimise the economic, energy, social, and environmental costs associated with the wasteful consumption of resources, and avoid the depletion of critical and non-renewable resources.

Some waste, with careful management (e.g. through recycling or re-use) has economic value. While the recovery of waste is a fundamental component of waste management, its limitations (e.g. variable quality, high collection and transportation costs, uncertain markets, and poor economic returns) mean that waste minimisation may offer the greater scope for positive economic and environmental benefits.

It is important to remember that:

- Merely separating out recyclables for kerbside collection does not constitute 'recycling'- a new use still has to be found for the segregated materials, and
- While it may be feasible to recover and reuse some materials, it also should ideally be economic to do so.

There is also a need to ensure that large volumes of residual waste (waste for which no new use can be found) can be safely disposed of. The availability of disposal facilities and services such as kerbside collections, transfer stations, landfills and cleanfills are an essential part of waste management. Historically rubbish dumps have been associated with a number of adverse environmental effects in the region such as the discharge of leachate to groundwater or the production of methane gases. However, over the last decade, adverse effects associated with landfills in the region have declined as the design, control, management and monitoring of landfills have been improved.

Managing environmental effects associated with contaminated sites is also an issue of concern.

Wasting resources is bad business. It costs you money and it costs the environment.

Waste is a problem because:

1. **It represents an inefficient use of materials and energy.**
2. **Waste disposal has harmful effects on people and the environment.**

1.4.2 The Taranaki situation

The quantity of waste disposed of to landfill in Taranaki is 64,520 tonnes per annum. On a per capita basis this equates to 588 kilograms per person per year (Table 1).

Table 1: Waste disposed of to landfill per annum

Tonnes to landfill per annum (2015)			
District council	Population[3]	Waste disposed to landfill per annum[4]	
		Tonnes	Tonnes per capita
New Plymouth	74,184		
Stratford	8,988		
South Taranaki	26,577		
Taranaki region	109,608	64,520	.588

In NPDC, recyclables represent 15% of all kerbside waste collected, STDC recyclables represents 28% and SDC 32%[5].

It is generally considered that refuse volumes reflect economic activity. This is because more economic activity means more waste produced, and more consumption so more products discarded at the end of their life. Between 2010 /2011 and 2014/2015, economic activity in Taranaki increased 6.3% while, waste disposed of to landfill, per person, increased 7.3%.

How do we compare[6]:

1. **Taranaki** 590 kg per person per year
2. **New Zealand** 650 kg per person per year

A new contract for regional solid waste services in Taranki was implemented on 1 October 2015. This contract encompasses kerbside collection and transfer station services and has incorporated a new material recovery facility (MRF) for sorting of recyclables. The new contract has allowed for the collection of a larger range of plastics for recycling, and a seperate collection of glass which allows for sorting by colour at source. It is intended that additional services will be located in the vicincity of the MRF including re-use, e-waste and recovery services.

The existing regional landfill is expected to reach capacity in 2019. To ensure landfill capacity remains available in the future, consents are in place for a site in Eltham to be potentially opened and operated as the regional landfill facility.

1.4.3 Statutory and planning framework

Steps have been initiated by central Government to minimise and better manage waste in New Zealand.

Historically, waste policies have focussed on 'end of pipe' solutions, i.e. disposal rather than prevention (refer Figure 2). However, more recently Government legislation, policies and strategies have reflected cyclical waste management, which involves the re-use and recovery of material throughout a product's life cycle (refer Figure 3).

Figure 2: End of pipe waste management

Figure 3: Cyclical waste minimisation

[3] 2013 Census data

[4] District breakdown is not accurate as commercial loads are recorded by company details rather than pick-up location, hence region data only provided.

[5] 2014/2015 data. This is prior to the new regional solid waste services contract being implemented and it is expected that these diversion figures will increase considerably.

[6] 2013/14 data. Source: Taranaki Regional Council's state of the environment report *Taranaki as One* (2015).

In October 2008, the Government enacted the *Waste Minimisation Act* 2008. The Act aims to benefit our economy and environment by encouraging better use of materials throughout the product life cycle, promoting domestic reprocessing of recovered materials and providing more employment.

Key aspects of the Act include:

- Establishing a levy on all waste disposed of in landfills, which will be used to assist local government, communities and businesses for projects to further reduce the amount of their waste.
- Assisting and, when necessary requiring, producers, brand owners, importers, retailers, consumers and other parties to take responsibility for the environmental effects arising from their products at end-of-life (from 'cradle-to-grave').
- Requiring territorial authorities and others (e.g. landfill operators) to report on waste and to improve information on waste minimisation.
- Clarifying roles and responsibilities of territorial authorities in relation to waste minimisation.

Under the Waste Minimisation Act the Medical Officer of Health and Health Protection Officer are responsible and have statutory powers for managing public health risks around waste.

In October 2010, the Government completed its review and released the *New Zealand Waste Strategy – Reducing Harm, Improving Efficiency* (NZWS). The revised NZWS has two core goals:

- Reducing the harmful effects of waste.
- Improving the efficiency of resource use.

The NZWS acknowledges the important role regional councils can play by facilitating a collaborative approach to waste management planning amongst territorial authorities. Consequently, the regional strategy has been prepared to provide guidance to the territorial authorities when preparing their waste management and minimisation plans. These plans are a statutory requirement under the Waste Minimisation Act.

Through the region's three territorial authorities having objectives, policies, and in many cases methods in common within their respective waste minimisation and management plans, waste management in the region can become more efficient and effective, including more cost-effective.

A Taranaki Regional Waste Minimisation Education Strategy was adopted in 2013. The development of the education strategy acknowledges that achieving the targets of this Strategy will require a shift in behaviour at the individual and community level, and hence education, communication and advocacy programmes will be required alongside of changes to service provision.

In accordance with section 62(1)(i)(ii) of the Resource Management Act 1991, the three territorial authorities of the region are responsible for specifying objectives, policies and methods for the control of the use of land to prevent or mitigate the adverse effects of the storage, use, disposal or transportation of hazardous substances – except where land use controls relate to the TRC's functions under the Act for:

- The coastal marine area; and
- The beds of rivers, lakes and other waterbodies.

The TRC is responsible for managing discharges to land, air or water.

Under the Resource Management Act, the Government has prepared the *National Environmental Standard Relating to Certain Air Pollutants, Dioxins, and other Toxics*. The standard's objective, amongst other things, is to provide for the effective management of discharges to air of greenhouse gases generated from large landfills by 'locking in'

existing best practice of capturing and flaring landfill gases. [7]

The New Zealand Emissions Trading Scheme is part of the Government's response to climate change and has implications for owners and managers of landfills. In particular, landfill operators have obligations for the methane emitted through the biodegradation of organic waste.[8] Since 1 January 2012, participants have been required to report their greenhouse gas emissions, and since 2013 have had to surrender carbon units for landfill gas discharges. .

1.5 Structure

The structure of this Strategy is divided into twelve sections.

Section 1 contains the introduction to the Strategy, including its purpose, commencement and duration, context, and structure.

Section 2 contains a definition of terms and acronyms used in this Strategy.

Section 3 sets out the Strategy's over-arching vision, goals and targets for waste minimisation in the Taranaki region.

Section 4 sets out the issues, objective, and methods to achieve the objective, relating to waste minimisation and management planning.

Section 5 sets out the issues, objective and methods to achieve the objective, relating to the efficient use of recyclable materials.

Section 6 sets out the issues, objective and methods to achieve the objective, relating to the efficient use of organic waste materials.

Section 7 sets out the issues, objective and methods to achieve the objective, relating to the efficient use of special waste materials.

Section 8 sets out the issues, objective and methods to achieve the objective, relating to the efficient use of construction and demolition waste materials.

Section 9 sets out the issues, objective and methods to achieve the objective, relating to the efficient use of hazardous waste materials.

Section 10 sets out the issues, objective and methods to address environmental effects associated with waste disposal facilities.

Section 11 sets out the issues, objective and methods to address environmental effects associated with contaminated sites.

Section 12 sets out provisions relating to the administration and implementation of the Strategy, including monitoring and review.

A review of the targets pertaining to these objectives is contained in Appendix II.

[7] The waste sector was responsible for 2.4% of New Zealand's greenhouse gas emissions in 2006. It is the only sector that has reduced its greenhouse gas emissions below 1990 levels.

[8] The emissions trading scheme will include methane emissions from landfills that deposit solid waste. Such waste must be partially household waste. Methane emissions occur as a result of the biodegradation of organic matter contained in landfills.

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2. Definition of terms and acronyms

This section provides the meaning of words and acronyms used in the Strategy. When a word is followed by an (*), the meaning that follows is the meaning provided for in the Waste Minimisation Act. Users of the Strategy are advised that they should refer to the Act (or other relevant legislation) to ensure that the definition that is included in the Strategy is the current statutory definition. In the case of any inconsistency or amendment of the definition, the statutory definition prevails.

Accredited Product Stewardship Scheme refers to a scheme assessed against criteria in the Waste Minimisation Act and which has been accredited by the Minister for the Environment under section 15 of the Act. Those running these schemes may apply to the Minister to have the scheme accredited.

Biosolids refers to treated sewage sludge that is stabilised and suitable for beneficial reuse.

Circular Economy refers to where the value of products and materials is maintained for as long as possible; waste and resource use are minimised, and resources are kept within the economy when a product has reached the end of its life, to be used again and again to create further value.

Cleanfill site refers to a waste disposal site that accepts only cleanfill material.

Cleanfill material refers to material that when buried will have no adverse effect on people or the environment. Cleanfill material includes virgin natural materials such as clay, soil and rock, and other inert materials such as clay, soil and rock, and other inert materials such as concrete or brick that are free of:

- Combustible, putrescible, degradable or leachable components
- Hazardous substances
- Products or materials derived from hazardous waste treatment, stabilisation and disposal practices
- Materials that may present a risk to human or animal health such as medical and veterinary waste, asbestos or radioactive substances
- Liquid waste.

Construction and demolition wastes refer to waste material from the construction or demolition of a building, including the preparation and or clearance of the property or site.

Contaminated land means land that has a hazardous substance in or on it that:

(i) Has significant adverse effects on the environment; or
(ii) Is reasonably likely to have significant adverse effects on the environment.

Contaminated sites refer to land areas that are contaminated, as defined above

Disposal*, unless the context requires another meaning, means

(a) The final (or more than short-term) deposit of waste into or onto land set apart for that purpose; or
(b) The incineration of waste.

Disposal facility*, unless the context requires another meaning, means

(a) A facility, including a landfill, -
    (i) At which waste is disposed of; and
    (ii) At which the waste is disposed of includes household waste; and
    (iii) That operates, at least in part, as a business to dispose of waste; and
(b) Any other facility or class of facility at which waste is disposed of that is prescribed as a disposal facility.

District means the district of a territorial authority.

Diverted material* means any thing that is no longer required for its original purpose and, but for commercial or other waste minimisation activities, would be disposed of or discarded.

Extended Producer Responsibility refers to placing puts the onus on businesses to look for, and capitalise on, opportunities for resource conservation and pollution prevention throughout a product's life cycle.

Hazardous waste refers to materials that are flammable, explosive, oxidising, corrosive, toxic, ecotoxic, radioactive or infectious. Examples include unused agricultural chemicals, solvents and cleaning fluids, medical waste and many industrial wastes.

Health Protection Officer means a person designated by the chief executive of the Ministry of Health as a Health Protection Officer under the Health Act 1956.

Household waste* means waste from a household that is not entirely from construction, renovation or demolition of the house.

Inert material refers to material that when placed in the ground have minimal adverse effects on the surrounding environment.

Landfill refers to an area used for the controlled deposal of solid waste.

Local authority refers to any territorial authority or regional council within the meaning of the Local Government Act 2002.

Materials Recovery Facility (MRF) refers to the facility where recyclables are received, sorted, and sold to end user manufacturers.

Medical Officer of Health* as defined under section 7A of the Health Act 1956.

MfE refers to the Ministry for the Environment.

NZWS refers to *New Zealand Waste Strategy – Reducing Waste, Improving Efficiency* (2010).

NPDC refers to the New Plymouth District Council (NPDC.

Organic waste includes garden, kitchen waste, food process wastes, and sewage sludge.

Organochlorines –refers to chemicals that contain carbon and chlorine atoms joined together. Some organochlorines are persistent and present a risk to the environment and human health. Examples include dioxin and polychlorinated biphenyls (PCBs).

Product Stewardship – refers to requirements for producers, brand owners, importers, retailers, consumers and other parties to accept responsibility for the environmental effects of products – from the beginning of the production process through to, and including, disposal at the end of the product's life.

Recovery* means extraction of materials or energy from waste or diverted material for further use or processing and includes making waste or diverted material into compost.

Recycling* means the reprocessing of waste or diverted material to produce new material.

Reduction* means:

(a) Lessening waste generation, including by using products more efficiently or by designing products; and
(b) In relation to a product, lessening waste generation in relation to the products.

Regional council means a regional council within the meaning of the Local Government Act 2002.

Reuse* means the further use of waste or diverted material in its existing form for the original purpose of the materials or products that constitute the waste or diverted material, or for a similar purpose.

SDC refers to the Stratford District Council.

Sewage sludge - Sewage sludge is a by-product of sewage collection and treatment processes.

Solid waste refers to all waste generated as a solid or converted to a solid for disposal. It includes wastes like paper, plastic, glass, metal, electronic goods, furnishings, garden and other organic wastes.

Special wastes refers to those wastes that cause particular problems at disposal and which may need special management to effectively recover material or ensure proper disposal. Examples of special wastes include used oil, used tyres, end-of-life vehicles, batteries, end-of-life electronic goods and goods with specific materials such as some plastics.

STDC refers to the South Taranaki District Council.

SWAP refers to Solid Waste Analysis protocol programme which is a classification and sampling technique to measure the quantity and composition of waste[9].

Taranaki Solid Waste Management Committee refers to the joint committee charged by Taranaki's regional council and territorial authorities to considering waste management issues in the region. The Committee involves representation from TRC, NPDC, STDC, SDC and Medical Officer of Health or Health Protection Officer.

Territorial authority means a city council or district council named in Part 2 of Schedule 2 of the Local Government Act 2002.

Trade waste refers to liquid wastes generated by business and disposed of through the trade waste system. Trade waste includes a range of hazardous materials resulting from industrial and manufacturing processes.

Transfer station refers to a facility where waste is consolidated, possibly processed to some degree, and transported to another facility for disposal, recovery or reuse.

TRC refers to the Taranaki Regional Council.

Treatment*
(a) Means subjecting waste to any physical, biological, or chemical process to change its volume or character so that it may be disposed of with no or reduced adverse effects on the environment; but
(b) Does not include dilution of waste.

Waste* means:
(a) Means any thing disposed of or discarded; and
(b) Includes a type of waste that is defined by its composition or source (for example, organic waste, electronic waste, or construction and demolition waste); and
(c) To avoid doubt, includes any component or element that is disposed of or discarded.

Waste hierarchy refers to the preferred order of waste minimisation and management methods (listed in descending order of importance):
- Reduction
- Reuse
- Recycling
- Recovery
- Treatment
- Disposal.

Waste management and minimisation* means waste minimisation and the treatment and disposal of waste.

Waste minimisation* means:
(a) The reduction of waste; and
(b) The reuse, recycling, and recovery of waste and diverted material.

Waste reduction means lessening waste generation, including by using products more efficiently or by redesigning products; and, in relation to a product, lessening waste generation in relation to the product.

[9] Ministry for Environment, 2015. *Waste Assessments and Waste Management and Minimisation Planning: A guide for Territorial Authorities*. Wellington.

3. Strategy vision, goals and targets

This section sets out an over-arching vision, goals, and targets to be achieved via the implementation of the Strategy.

3.1 Vision

People in Taranaki will use all resources efficiently and at a sustainable rate. In so doing, we will no longer regard waste as inevitable, or see it as someone else's problem. We will identify and practice methods for reducing waste and improving resource efficiency.

3.2 Goals

Collectively the objectives and methods set out in sections 4 to 12 of the Strategy are anticipated to achieve the following inter-related goals:

1. Reduce the harmful effects of waste.
2. Improve the efficiency of resource use.

3.3 Targets

3.3.1 Strategy targets

Over the life of the Strategy, the following targets are anticipated:

1. To reduce total waste volume going to landfill measured on a per capita basis.
2. To reduce residential wastes collected through kerbside collection for disposal to landfill on a per capita basis.
3. To ensure any increases in waste volumes to landfill remain below any increase in regional economic performance.

While the first priority in waste management is to reduce the volume of waste generated, such a change is extremely difficult and expensive to measure in any direct and meaningful manner. Therefore, the targets focus on the consequences of such actions i.e. is there a reduction in the volume of residual wastes requiring disposal to landfill? These measures will give an indication of what is happening overall.

The progress towards the targets above, along with targets relating to matters in the following sections of the strategy, are reported in Appendix II.

Composting and worm farming at Puketapu kindergarten

4. Waste minimisation and management planning

This section identifies the objective and methods for ensuring sound **waste minimisation and management planning**.

4.1 Issue description

Achieving the Strategy vision and goals will involve the TRC and three territorial authorities undertaking action under the *Waste Minimisation Act* 2008 (WMA) and the *Resource Management Act* 1991 (RMA).

Under the WMA, territorial authorities must revise their waste management and minimisation plans by 2012, and then at intervals of not more than six years after the last review. The WMA requires that local government have regard to the NZWS when preparing these plans.

Under section 51 of the WMA, territorial authorities must carry out waste assessments. In making an assessment a territorial authority is required to consult with the Medical Officer of Health.

In Taranaki, waste minimisation and management planning will be integrated as far as is practicable through the Taranaki Solid Waste Management Committee. The Taranaki Solid Waste Management Committee is a joint committee comprising the TRC and the three territorial authorities charged with considering and addressing waste management issues across the region. The Medical Officer of Health and Health Protection Officer also participate on the Committee in a non-voting role.

At an operational level, a regional waste minimisation officer is appointed to assist the four councils to implement the Strategy and achieve its targets.

4.2 Objective

Obj *Achieve effective regional and territorial authority planning for waste minimisation and management.*

4.3 Methods

To achieve the objective, the following methods apply:

- TRC, NPDC, SDC, STDC to maintain a joint Committee to consider and address waste management issues across the region.
- Joint Committee agenda and minutes to be sent to the Medical Officer of Health or Health Protection Officer.
- TRC, in consultation with NPDC, SDC and STDC, to maintain, implement and review a regional waste management strategy promoting integrated waste management across the region.
- NPDC, SDC and STDC to prepare, in relation to their districts, waste minimisation and management plans.
- Currently the TRC, NPDC, SDC and STDC employ a regional waste minimisation officer to facilitate the implementation of the regional waste management strategy with a particular focus on advocacy, advisory and educational activities. TRC, NPDC, SDC and STDC to review the role and funding of the regional waste minimisation officer by December 2017.
- TRC, NPDC, SDC, STDC to seek opportunities to work collaboratively with other sectors to implement the goals of this strategy.

5. Efficient management of recyclable materials diverted from landfill

This section identifies the objective and methods to address the issue of managing **recyclable materials** diverted from disposal to landfill.

5.1 Issue description

Recyclable materials include paper, cardboard, glass, plastics, tins and aluminium cans. The diversion and re-use of recyclable material have many benefits, including reducing the quantity of waste to be disposed of by the householder, reducing the need for landfill space, and converting/reusing recyclable material to valuable end products.

Many recyclables are already diverted from landfill. In recent years there has been significant progress in the collection, recycling and reuse of recyclable waste through kerbside collections and other waste collectors offering private collection and recycling services.

All three territorial authorities provide kerbside recycling for urban households. The amount of recyclable materials disposed of via kerbside collections has increased significantly over time. In NPDC, recyclables now represent 23% of all kerbside waste collected, while in STDC recyclables represent 38% and SDC 35%.

Notwithstanding the above, there are further opportunities to improve on recycling. For example, easily recyclable materials such as paper, plastics, green waste, metals and glass make up 27.3%[10] of total waste disposed of to the Colson Road Landfill. If other recyclable materials such as kitchen waste, textiles and untreated timber are considered, potentially recyclable materials make up approximately 52% of total waste still disposed of to the Colson Road Landfill.

However, material recovery, re-use and recycling need robust markets and may be hampered by factors such as variations in product quality, poor labelling of materials, price fluctuations, perceptions of quality, low volumes, high transport costs and product contamination. Some of these factors can be overcome through education, voluntary agreements between producers and recyclers, and good waste management planning. Others may require law changes or investment in research and development.

Kerbside collection of recyclables and general waste, New Plymouth

[10] 2010 data. Updated data will be collected in 2016.

5.2 Objective

Obj *To recover and reuse recyclable materials from the waste stream, in order to protect the environment and public from harm and to provide economic, social, cultural and environmental benefits.*

5.3 Methods

To achieve the objective, the following methods apply:

- NPDC, SDC, and STDC to provide urban residential kerbside collection services to separate and divert recyclable materials.
- NPDC, SDC and STDC to provide facilities at transfer stations to receive and separate recyclable materials.
- NPDC, SDC and STDC to utilise economic incentives and disincentives to encourage the diversion of recyclable waste away from landfills and cleanfills.
- TRC, NPDC, SDC and STDC to provide educational resources to assist with the promotion of recycling.
- NPDC, SDC and STDC, in consultation with the Medical Officer of Health, to undertake waste assessments to determine recyclable (and other) waste quantities being disposed of to landfills.
- TRC, NPDC and SDC to monitor recycling services within the region's commercial sector using bylaws, surveys and compliance monitoring of consents.

Recyclables at the MRF

6. Efficient management of organic waste

This section identifies the objective and methods to address the issue of minimising **organic wastes** to be disposed of.

6.1 Issue description

Organic wastes include garden waste (green waste), kitchen waste, food processing wastes and sewage sludge. When organic waste is landfilled, it degrades, and leachate and landfill gases (predominantly methane) are produced. If not collected and treated appropriately leachate can contaminate groundwater and surface waters, while methane is a greenhouse gas 21 times more damaging than carbon dioxide. Under the Emission Trading Scheme for 'greenhouse' gases, methane emissions from landfills incur a 'carbon charge', in addition to the levy upon wastes entering the landfill. So there is a double penalty applied to organic wastes that are landfilled.

A 2010 survey of waste to landfill conducted for NPDC found that 29.8% of the waste was organic, i.e. 18,800 tonnes per annum. The organic waste is approximately 30% green waste and 70% other organics[11].

Because of the technical feasibility of treating organic wastes to gain a useable product, the large volumes of organic wastes, and the penalties imposed upon organic wastes to landfill, it is worthwhile pursuing the minimisation of organic waste disposal as a priority. Approximately 80% of organic wastes (that can be accounted for), are already diverted from landfill to beneficial re-use. The commercial and agricultural sectors in particular have been very effective in diverting organic wastes away from landfill. However, more can still be recovered.

Rural based industries such as dairy and poultry farming, meat processing and piggeries, together with abattoirs and wastewater treatment facilities generate the largest volume of organic waste in Taranaki (approximately 110,000 tonnes). However, as noted in Table 2, all this waste is recycled or re-used for beneficial end uses such as the production of compost, soil conditioner, and fertiliser.

A significant proportion of the organic waste from commercial and domestic sources is green waste. It is also a portion that can be easily diverted from landfill, e.g. by home composting, worm farms, mulching and chipping.

Diversion of organic waste to composting has many benefits, including reducing the quantity of waste to be disposed of by the householder, reducing the need for landfill space, and converting organic waste to valuable end products.

Table 2: Examples of disposal of organic waste

Sector	Quantity of waste (per annum)	Comments
Dairying effluent	7,700 tonnes of effluent solids to land	On-farm treatment & disposal. No disposal to landfill
Meat processing and dead livestock	77,000 tonnes (including animal and fish meat processing by-products)	Organic by-products including stick water, paunch & screenings transported & processed by rendering plants to produce fertiliser
Poultry manure	24,000 tonnes	Chicken manure used to produce fertiliser. No disposal to landfill
Piggeries	330 tonnes	Pig manure is composted by the larger piggeries, and spread directly to land by smaller operations. No disposal to landfill
New Plymouth wastewater treatment plants	1,300 tonnes of dry product	Sewage dried to form biosolid pellets

[11] Waste Not Consulting, 2010. *Analysis of Residual Waste to New Plymouth Transfer Station and Colson Rd Landfill.*

6.2 Objective

Obj *To minimise organic waste disposed of, in order to protect the environment and public from harm and to provide economic, social, cultural and environmental benefits.*

6.3 Methods

To achieve the objective, the following methods apply:

- STDC to provide voluntary urban kerbside collection services to separate and reuse organic wastes.
- NPDC and SDC to consider separate organic collection services for the community.
- NPDC, SDC and STDC to facilitate separation of organic wastes at transfer stations for further processing.
- NPDC, SDC and STDC to utilise economic incentives and disincentives to encourage the diversion of organic waste away from landfills.
- NPDC, SDC, and STDC to consider provision of or support for district or regional composting facilities.
- NPDC, SDC and STDC to promote organic waste minimisation by:
  - advocating for schools, businesses and other organisations to establish alternative methods for the disposal of organic waste, including composting systems
  - promoting home composting.
- TRC, NPDC, SDC and STDC to provide educational resources to assist promotion of recycling and recovery and home composting.
- NPDC, SDC and STDC, in consultation with the Medical Officer of Health, to undertake waste assessments to determine organic (and other) waste quantities being disposed of to landfills.
- NPDC to investigate beneficial reuses of sewage sludge.
- TRC, NPDC, SDC and STDC to monitor provision of organic collection and processing services within the region's commercial sector.
- TRC, NPDC, SDC and STDC to support and promote the Love Food Hate Waste Campaign.

Promoting the Love Food Hate Waste campaign at the Taranaki Home and Lifestyle Expo

7. Efficient management of special waste

This section identifies the objective and methods to address the issue of minimising special wastes disposed of.

7.1 Issue description

Special wastes are those wastes that cause particular problems at disposal and which may need special management to effectively recover material or ensure proper disposal.

In Taranaki, there is less than 1,000 tonnes of special waste disposed of to landfill each year[12]. This represents 1% of waste disposed of to landfill.

The main sources of special waste in the region are associated with the farming and petrochemical sectors. The main special wastes disposed of to landfill are grease trap cleanings, septage sludge and wastewater plant screenings.

Special wastes associated with the dairy industry include agrichemical and sanitizer containers, surplus agrichemicals, silage wrap and hay twine, shed rubberware, animal treatment wastes, workshop waste, pipe and concrete, domestic waste and other assorted solid wastes. The volumes and types of wastes produced are often seasonally influenced. [13]

Special wastes produced as a result of oil and gas exploration include drilling muds and cuttings (the volume is highly variable, but around 1,000 cubic metres per well is typical) and produced waters (formation water, brine, injection water and other technological waters)[14]. Synthetic-based drilling mud mixtures are usually recovered for re-use, rather than disposed of after a single use, because of their expense. Special wastes produced from downstream petrochemical industries and other industries include treatment sludges, plastics, ferrous and non-ferrous metals, catalysts, organic chemicals, inorganic chemicals, filter cakes and viscous solids.

Examples of post-consumer special waste include used oil, used tyres, end-of-life vehicles, batteries, end-of-life electronic goods (e-waste). Product stewardship is a mechanism that is often suited to the management of special wastes, because of the significant expense and specialised skills required in their handling or treatment.

Agrecovery container recycling programme

[12] Montgomery Watson Harza, 2002. *New Plymouth, Stratford and South Taranaki District Councils' Regional Solid Waste Study for Taranaki*.
[13] WaiPAC, 1998. *Solid waste in rural New Zealand – A black hole?* Paper presented to WasteMINZ 10th Annual Conference, November 1998.
[14] Environmental impact of the offshore oil and gas exploration and production. www.offshore-environment.com

7.2 Objective

Obj *To minimise special waste disposed of, in order to protect the environment and public from harm and to provide economic, social, cultural and environmental benefits.*

7.3 Methods

To achieve the objective, the following methods apply:

- NPDC, SDC and STDC to support and subsidise e-waste recyclers as a means to ensure the region has collection, recovery, recycling, treatment and disposal services for e-waste.
- TRC to investigate and/or support initiatives by or for the petrochemical sectors to encourage appropriate management of special wastes.
- TRC, NPDC, SDC and STDC to investigate and/or support initiatives for the appropriate management of special wastes on farm.
- NPDC to consider / implement separate reception and treatment facility for septage waste, grease trap cleanings and DAF products.
- NPDC to identify particular categories of special wastes and investigate options for diversion from landfill, having regard to potential benefits.
- TRC, NPDC, SDC and STDC to publicly promote businesses and organisations in the region that take back special wastes.
- TRC, NPDC, SDC and STDC to publicise possible drop off points for all categories of household special wastes.
- NPDC, SDC and STDC to monitor special (and other) waste quantities being disposed of to landfills.
- The Taranaki Solid Waste Management Committee to advocate to Government for mandatory product stewardship of electrical equipment, tyres, agricultural and farm plastic, refrigerants and synthetic greenhouse gases.

8. Efficient management of construction and demolition waste

This section identifies the objective and methods to address the issue of minimising the disposal of **construction and demolition wastes**.

8.1 Issue description

Construction and demolition waste consists of waste building materials, packaging, and rubble from the construction, renovation, and demolition of buildings and roads. It includes asbestos contaminated products.

Such material can be difficult to recover sustainably. It tends to be large volume, highly mixed, of low quality, and of low value. While nationwide this category is considered to comprise a large proportion of the waste stream (up to 50%), through visual surveys at the Colson Road landfill it is known that the amount of construction and demolition type waste disposed to this landfill is small (at approximately 6,000 tonnes, it represents 10% of waste disposed of to the landfill). However, not all construction and demolition waste in the region is disposed of to landfill as some is diverted to cleanfills or otherwise reused.

The landfilling of the inert portion of construction and demolition waste (i.e. wastes that, when placed in the ground, have minimal adverse effects on the surrounding environment) takes valuable space better utilised for the disposal of other wastes (i.e. that require a higher level of management). Where possible, such waste should be diverted to cleanfills.

Construction and demolition wastes which are not acceptable as cleanfill include asbestos, abrasive blasting sand/agents, new asphalt, bark, cables, carpet, containers, corrugated iron, electrical equipment and insulation, formica, green waste, hardboard, MDF, metals, paint and painted materials, paper and cardboard, chipboard, plywood, sawdust, tar, processed timber and wood chips. Alternatives to cleanfilling (e.g. reuse, recycling or landfilling) are required for such wastes.

With forethought and good management, many construction and demolition wastes can be reused or recycled (thereby diverting them from land and cleanfills). For example, a variety of building materials including doors, windows, framing and flooring timbers, and bathroom and kitchen units can be sold and bought at demolition yards. There are also a large number of scrap metal dealers in Taranaki. On Taranaki farms there is widespread reuse of fencing materials, gates, steel pipes and corrugated iron.

For some special wastes and construction and demolition waste, landfill disposal is necessary to protect the environment and people from harm. Asbestos waste poses a particular risk to human health. It is important that asbestos waste is permanently isolated from the people and the environment through disposal to a fully secure site.

Outlined in Table 3 below are construction and demolition waste material suitable for disposal in cleanfills based upon Ministry for Environment (MfE) guidelines *A Guide to the Management of Cleanfills* 2002.

Table 3: Construction and demolition waste acceptable at landfills

Material	Discussion
Asphalt (cured)	After asphalt has been exposed to the elements for some time, the initial oily surface is gone & the weathered (cured) asphalt is considered inert
Bricks	Inert – will undergo no degradation
Ceramics	Inert material
Concrete – un-reinforced	Inert material. However, ensure that other attached material is removed
Concrete – reinforced	Reinforced concrete is acceptable (as steel reinforcing bars will degrade) provided protruding reinforcing steel is cut off at the concrete face
Fibre cement building products	Inert material. However, care needs to be taken that the product does not contain asbestos, which is unacceptable
Glass	Inert material. However, may pose a safety risk if placed near the surface in public areas, or if later excavated
Road sub-base	Inert material
Soils, rock, gravel, sand, clay etc	Inert material (if free of contamination)
Tiles	Inert material

8.2 Objective

Obj *To minimise construction and demolition waste disposed of, in order to protect the environment and public from harm and to provide economic, social, cultural and environmental benefits.*

8.3 Methods

To achieve the objective, the following methods apply

- NPDC, SDC and STDC to utilise economic incentives to encourage the diversion of construction and demolition waste away from landfills.
- NPDC to provide reception, recovery, recycling, treatment and disposal services for construction and demolition materials at Colson Road facility.
- TRC, NPDC, SDC and STDC to promote the reuse and recycling of construction and demolition wastes by:
  - advocating and educating businesses and other organisations to establish and utilise alternative methods for the disposal of construction and demolition waste
  - publicly promoting businesses and organisations in the region that reuse and recycle construction and demolition waste.
- TRC, NPDC, SDC and STDC to investigate and/or support industry-led initiatives to reduce, reuse or recycle construction and demolition waste materials.
- TRC to undertake compliance monitoring and appropriate enforcement of all cleanfills.
- Six yearly SWAP analysis and industry survey to include identifying and monitoring construction and demolition (and other) waste quantities being disposed of to landfill.

9. Efficient management of hazardous waste

This section identifies the objective and methods to address the issue of minimising **hazardous wastes** disposed of.

9.1 Issue description

Hazardous substances are a common part of our lives. However, the use of hazardous substances can also produce hazardous waste.

Hazardous waste is predominantly generated as a by-product of manufacturing processes (e.g. timber preservatives) and, to a lesser extent, from domestic households (e.g. household bleaches, solvents). They are of particular concern due to the disproportionate level of harm it is capable of causing to people or the environment.

Small quantities of hazardous waste are disposed of to landfill. Domestic hazardous waste (e.g. paint cans, aerosols, batteries, medicines, garden sprays, kitchen cleaners, and take-home oil packs) is accepted at no charge at transfer stations. Studies indicate that hazardous wastes comprise only 1% of all kerbside collections[15] [16]. Industrial and commercial hazardous waste may be accepted for landfilling in Taranaki but special considerations and costs may apply.

Agrecovery, with support of the TAs, coordinates regular agrichemical collections. A total quantity of 1.6 tonne of agrichemical was collected off farms in Taranaki in 2015.

[15] Taranaki Regional Council, 1992. *New Zealand Waste Classification Project: Results of pilot trials undertaken by the Taranaki Regional Council*, April 1992.
[16] Taranaki Regional Council, 1994. *Analysis of Kerbside Refuse Composition in New Plymouth Urban Area*. Technical Report 94-11, October 1994.

9.2 Objective

Obj *To minimise hazardous waste disposed of, in order to protect the environment and public from harm and provide economic, social, cultural and environmental benefits.*

9.3 Methods

To achieve the objective, the following methods apply:

- NPDC, SDC and STDC to provide a facility for the reception and storage of hazardous waste at at least one transfer station in each district.
- NPDC, SDC and STDC to ensure their Council's hazardous wastes transportation vehicles are appropriately licensed.
- TRC to apply regional rules to regulate the discharge of hazardous substances and wastes and notify the Medical Officer of Health of any potential public health risks.
- NPDC and SDC to enforce and monitor trade waste by-laws in their districts.
- STDC to consider the adoption of a trade waste bylaw with subsequent enforcement and monitoring of trade waste.
- NPDC, SDC and STDC to include in building consents under the Building Act 2004, conditions relating to the use and storage of hazardous substances.
- TRC to provide advice and information to landowners, resource users and the public on alternatives to the use of hazardous substances, the recovery of hazardous substances, and options for environmentally safe disposal of hazardous wastes.

- TRC to undertake compliance monitoring of the regional landfill and cleanfills to ensure compliance with consent provisions relating to deposition of various materials, and that the nature of waste being deposited is appropriate for each particular site.
- NPDC, SDC and STDC to continue to identify and monitor hazardous (and other) waste quantities being disposed of to the regional landfill.
- The Taranaki Solid Waste Management Committee to advocate for appropriate national controls on product stewardship and on disposal of hazardous wastes.
- TRC, NPDC, SDC and STDC will support, promote and advocate for product stewardship schemes that address the recovery or recycling of the hazardous components of waste.

Hazardous waste

10. Environmental effects relating to treatment and disposal facilities

This section identifies the objective and methods to ensure disposal facilities (landfills, cleanfills and sewage treatment facilities) meet high environmental standards and that they meet the needs of the region for access to these facilities.

10.1 Issue description

Over the past two decades, adverse environmental effects associated with solid waste disposal (e.g. odour, seagulls, and pollution leaching to groundwater) have been significantly reduced through the closure of small municipal landfills, and through improved landfill design, engineering and management practices.

Historically, Taranaki was serviced by about 20 landfills – some of which were poorly engineered or managed resulting in adverse environmental effects. As at 2010, there is now one regional landfill – the Colson Road Landfill, which is near New Plymouth.[17] It is intended that Colson Road is engineered and managed to a high level of environmental standards (e.g. landfill liners and leachate collection systems). MfE [18] classifies Colson Road as a Class 1 landfill (i.e. it is suitable for all but the most problematic of wastes). Colson Road is consented under the Resource Management Act and is subject to regular compliance monitoring.

Colson Road Landfill is expected to reach capacity around 2019. To ensure access to landfill capacity in the future, consents are already in place for a site in Eltham to be opened and operated as a regional facility.

The closure of small municipal landfills in Taranaki and increased landfill costs have contributed to the emergence of cleanfill sites. Cleanfills are not simply small or cheap landfills. They should only accept inert material as they have no engineered barriers or safeguards for the environment. There are 23 consented cleanfills operating in Taranaki with most meeting good to high environmental standards. [19]

There are also composting operations in north Taranaki that take and treat green waste. These too must meet acceptable environmental standards.

Wastewater treatment and discharges in Taranaki have been upgraded and improved over the past 15 years. The New Plymouth wastewater treatment plant was upgraded in 1995 with the construction of a new de-watering facility and again in 2013 to modify the existing aeration basins. Wastewaters from other north Taranaki urban settlements are also treated via the plant.

A number of upgrades have been undertaken at the Hawera WWTP since 2000, including reconfiguration of ponds. Effluent from Hawera oxidation ponds is diverted to the NZMP Whareroa marine outfall.

[17] There are two other consented landfills in Taranaki available for contingency and emergency purposes only.
[18] Ministry for the Environment, 2003. '*2002 Landfill Review and Audit Report*'. March 2003.

[19] In cases where TRC monitoring has identified sites accepting prohibited wastes, the Council instigates enforcement action, including prosecutions and requirements for closure.

10.2 Objective

Obj *Achieve consistent, high standards of environmental performance for waste minimisation, transport, storage, treatment and disposal facilities.*

10.3 Methods

To achieve the objective, the following methods apply:

- TRC to include provisions in regional plan(s) addressing environmental standards for discharges from landfills, cleanfills, and wastewater treatment facilities.
- NPDC, SDC and STDC to include in district plans and resource consents, provisions or conditions to control the use of land to avoid, remedy or mitigate the adverse effects of waste treatment and disposal.
- TRC to ensure all cleanfills comply with relevant resource consents, rules, and MfE guidelines for cleanfill disposal, and to report on cleanfill compliance to the public annually.
- TRC to provide advice and information to the public and consent holders on rules, regulations and best practice for waste disposal
- TRC to monitor, gather information, and report on waste disposal sites and their management.
- The Taranaki Solid Waste Management Committee will review and advocate to Government on:
  - the appropriateness, effectiveness and efficiency of MfE standards
  - appropriate means of providing environmental management to an acceptable level for solid waste disposal facilities
  - other waste initiatives, including the merits of tracking systems for hazardous waste.

11. Environmental effects associated with contaminated land

This section identifies the objective and methods to ensure contaminated sites are adequately managed to meet accepted environmental standards.

11.1 Issue description

Contaminated land arises as a result of poor disposal and management of hazardous substances. Poor management of contaminated sites and failure to remediate and assess their safety runs the risk of on-going damage and continuing risk to people and the environment.

Land is considered contaminated when hazardous substances are present at concentrations above background levels, and are likely to pose an immediate or long-term risk to human health or the environment. This contamination may have occurred as a result of current or historical uses of the site. Typical land uses that result in contamination include landfills, engineering workshops, timber treatment sites, railway yards, gasworks and drycleaners. With control of discharges to land in place since the enactment of the Resource Management Act, most issues around contaminated land relate to activities that occurred prior to this time.

As well as endangering health, land contamination can limit subsequent land use, cause corrosion that threatens building structures, reduce land value, and adversely affect water, vegetation and associated ecology. The contamination may not be limited to within the site boundaries as it has the potential to enter the wider environment as a surface-water, groundwater or air discharge.

TRC investigations of possible contaminated sites (e.g. dieldrin sites, past landfill sites, timber treatment premises, dry cleaning, rail yards, gasworks and scrap metal yards) have identified that most potential sites do not show evidence of contamination.

High level of environmental standards are essential to ensure contaminated land does not have significant adverse effects on the environment and public health. TRC routinely monitors all contaminated sites in Taranaki on an ongoing basis, either because they hold consents for discharges or as a pro-active measure to address the possibility of spill or other contamination event. There are sixteen high risk sites that have been remediated (cleaned-up or managed in other ways) in Taranaki. The councils of Taranaki have directly intervened at nine sites to undertake remediation for the good of the region, but normally a contaminated site is the responsibility of the current land owner.

The level of risk from contaminated sites is not uniform for all land uses (e.g. a site may be quite safe to use for industrial purposes, but unsafe for food).

A summary of the status of 'contaminated' sites (as at 2016) on the TRC's property database is set out in Table 4 below.

Table 4: Contaminated sites in the Taranaki region

Classification categories	No. of sites
Category U – Unverified history of hazardous activity or industry	0
Category V – Verified history of hazardous activity or industry	36
Category 1(a) – Hazardous substances present: risk unacceptable	0
Category 1(b) – Hazardous substances present: risk acceptable for land use	540
Category 2(a) – Remediation undertaken. Hazardous substances not present, or risk acceptable if residual still present	18
Category 2(b) – Hazardous substances not present: no identified contamination	754
Category E – Entered on database in error	0
TOTAL	**1348**

11.2 Objective

Obj *To ensure all contaminated sites are investigated, and managed or remediated.*

11.3 Methods

To achieve the objective, the following methods apply:

- NPDC, SDC and STDC will maintain at least one facility in their district to receive redundant non-industrial hazardous waste.
- TRC, NPDC, SDC and STDC will, as appropriate, assist or require land owners and other responsible parties to remediate or manage potentially contaminated sites and houses.
- TRC will include provisions in its Regional Fresh Water Plan addressing any contamination arising from past discharges to land or water.
- NPDC, SDC and STDC will include provisions in their district plans to control the use of land to avoid, remedy or mitigate adverse effects arising from hazardous substances.
- TRC, NPDC, SDC and STDC will advocate, as appropriate, to manufacturers and suppliers of hazardous substances, for the dissemination of information on minimising adverse environment effects arising from the use of those substances.
- The Taranaki Solid Waste Management Committee will review and advocate to Government on:
  - the appropriateness, effectiveness and efficiency of MfE standards relating to potentially or actually contaminated land
  - other government waste initiatives, including the merits of tracking systems for hazardous waste.
- TRC, in consultation with the Medical Officer of Health, will identify, investigate, monitor and record information on potentially contaminated sites, including their management, and make this information generally available to the public.

12. Monitoring and review

This section identifies the objective and methods for monitoring and reviewing the implementation of the Strategy and on monitoring waste management generally.

12.1 Issue description

On-going monitoring and evaluation of the Strategy is essential for tracking progress and identifying any changes that may be required in terms of its methods and specific programmes. Such information also contributes to monitoring waste management in the region.

TRC will be responsible for monitoring and reviewing regional information on waste management.

The three territorial authorities will also have responsibilities for managing waste and keeping records of some aspects of wastes as a consequence of their responsibilities for waste. These include a requirement to carry out waste assessments under section 51 of the *Waste Minimisation Act* 2008. Pursuant to that section of the Act, when making waste assessments the territorial authority is required to consult with the Medical Officer of Health.

Waste assessments include:

- A description of waste management services provided by the territorial authorities.
- A forecast of future demands for services.
- The options for meeting forecast demands.
- A statement of the territorial authority's intended role and proposals to meet forecast demands (including new or replacement infrastructure).
- A statement to the extent to which a proposal will ensure public health is adequately protected and promote effective and efficient waste management and minimisation.

There is currently a single contractor providing kerbside collection of refuse materials for all three territorial authorities. Therefore data on this aspect of waste management and disposal is readily available to the region's four councils.

A truck collecting kerbside waste in Stratford

12.2 Objective

Obj *To regularly monitor and review waste minimisation and management to provide a basis for evidence based decision-making.*

12.3 Methods

To achieve the objective, the following methods apply:

- TRC will annually report on the implementation of the Strategy to the SWMC.
- TRC will annually review and report on compliance for the region's landfill, cleanfills and wastewater facilities.
- TRC in collaboration with the NPDC, SDC, STDC and Medical Officer of Health will review and report on the implementation of this Strategy every five years.
- TRC will maintain an overview of regional trends and statistics that measure progress against the objectives, methods and targets set out in the Strategy.
- TRC will identify, investigate, monitor and record information on all known or potentially contaminated sites and their management, and will make this information generally available to the public.
- NPDC, SDC and STDC will institute a measurement programme to identify and monitor waste quantities by category being disposed of to the regional landfill.
- NPDC, SDC and STDC will contribute as required to national reports to enable central and local government and waste generators to ascertain progress in addressing waste management.
- NPDC, SDC and STDC will review the implementation of their waste management and minimisation plans and other waste-related activities.
- The Taranaki Solid Waste Management Committee will review the implementation of the Strategy, including those overall targets set out in section 3.3.1.
- TRC, NPDC, SDC and STDC will work towards implementing the National Waste Data Framework.

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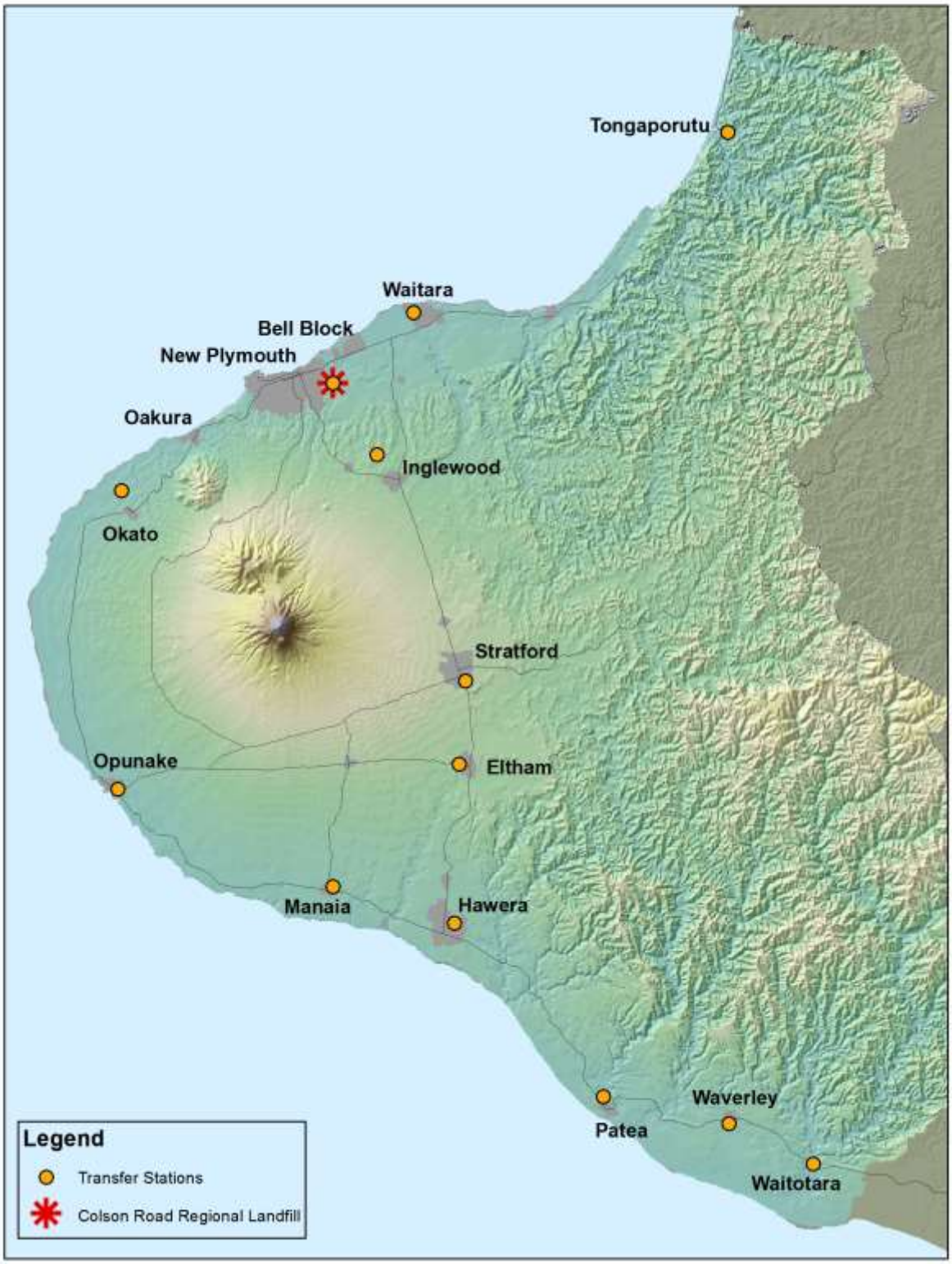
Appendix I: Territorial Authority provided solid waste management facilities.



Appendix II: Review of targets as at April 2016.

The following symbols show where Taranaki is in meeting the targets:

✓	The Taranaki region achieved this target on time.	▶	Programmes are in place towards achieving this target.
✓	The region achieved this target outside of set timeframe.	▶	Programmes are not yet in place. Target can be reached subject to undertaking work.

Measurements and icons as provided in Strategy (see 1282534) have been updated to provide more specific communication on progress

Section Heading	*Targets*	*Page*	*Progress on meeting*	*Comments*
3.3.1 Strategy targets	1. To reduce total waste volume going to landfill measured on a per capita basis	9	▶	Total waste to landfill has fluctuated since the three TA's began taking waste to the Colson Rd landfill. For the 2014/15 year similar tonnage per capita was landfilled as to when the strategy implemented. A reduction in total waste to landfill should be observed with the new contract in place.
	2. To reduce residential wastes collected through kerbside collection for disposal to landfill on a per capita basis		▶	A slight increase in kerbside rubbish collection per capita (including contracted collections in NPDC) has been observed with a slight reduction in STDC and SDC area. Achievement in this target is expected with the new contract in place.
	3. To ensure any increases in waste volumes to landfill remain below any increase in regional economic performance.		▶	MfE also reports on this target at a national level (tonnes of waste disposed at facilities per unit of GDP). In Taranaki, increase in waste volume is slightly above increase in regional performance. Percentage change in GDP since 2010 is 6.3% while percentage increase in waste to landfill is 7.3%.

Footnote with regard to targets (1) and (2)	The Taranaki Solid Waste Management Committee will investigate and quantify opportunities for waste reductions to landfills and through kerbside collections and set a reduction target by 30 June 2012.			A reduction target has not been set by the committee. However the TA's waste management and minimisation plans (WMMP) have: NPDC and SDC WMMP 2011: By 2015 decrease the per capita tonnes of waste going to landfill by 20% from 2010 baseline. STDC WMMP: By 2015 decrease the per capita tonnes of waste going to landfill by 5% - 10%from 2010 baseline.
4.4 **Waste minimisation and management planning** Target and progress	(a) By July 2012, all territorial authorities will have reviewed their waste minimisation and management plans in line with the Waste Minimisation Act.	10		NPDC's waste management and minimisation plans was adopted in 2011, STDC and SDC in 2012. These plans must be reviewed every six years. The territorial authorities have commenced this review, which is expected to be completed in 2017. This planning will be supported through the preparation and implementation of this Strategy.
5.4 **Efficient management of recyclable materials diverted from landfill** Target and progress	(a) At least 30% of total kerbside refuse volumes to be diverted from the landfill each year.	12		The three TAs have implemented a new contract which provides a regionally consistent and improved service for recycling. Kerbside recycling as at 2014/2015 is under 30% of total kerbside refuse, however it is anticipated that this target will be achieved in 2015/2016.
6.4 **Efficient management of organic waste** Target and progress	(a) By July 2012, the three territorial authorities to complete investigations into options (in addition to mulching and composting) for recycling and reusing organic waste.	14		The council's investigated organic waste collections through the retendering of the kerbside collection contract, however no new organic waste collection service was introduced. STDC introduced food waste collection in conjunction with their existing green waste collection. All three TAs provide a subsidised greenwaste collection at transfer stations. An organic waste diversion study was conducted for the three TAs and TRC in 2015. Investigations will continue for organic waste recovery.
	(b) NPDC to continue to convert sewage sludge into organic fertiliser.			NPDC diverts sewage sludge from its NP wastewater plant. This resource is converted into fertiliser. Target to be updated: "NPDC to continue to beneficially reuse sewage sludge".

7.4 **Efficient management of special waste** Target and progress	(a) By June 2015, the proportion of restaurants, cafes and takeaway bars utilising recycling services for waste cooking oil will increase by 10% of 2010 levels.	16		This target will be primarily achieved through the regional waste minimisation officer targeting restaurants and promoting the recycling of waste cooking oils. A survey in 2012 suggests 60% of premises recycled used cooking oil. As part of this survey businesses were able to request the waste minimisation officer advise on recycling opportunities. Additional surveys will be required to measure the target. These will be undertaken in 2016.
	(b) By July 2015, the proportion of garages utilising recycling services for used oil filters will increase from 9% to 20%.			Survey results of automotive garages in 2016 suggest 43% of garages are recycling oil filters.
	(c) By June 2015, reduce the amount of glass going to landfill by 30% of 2010 quantities.		Can not evaluate until 2016 SWAP data available	SWAP analysis in 2010 identified 86 tonnes per week of glass going to landfill. Comparative data to be collected in 2016. This will allow for the target to be assessed.
8.4 **Efficient management of construction and demolition waste** Target and progress	(a) By 2012, industries involved in products that become part of construction and demolition waste streams will reduce waste or recover materials from end of life product.	18		Data to be collected in 2016 will provide an indication on whether practices in the construction and demolition industry are changing in Taranaki.
9.4 **Efficient management of hazardous waste** Target and progress	(a) By 2012, industries will develop at least three accredited product stewardship schemes that increase the recovery or recycling of the hazardous components of waste.	20		The SWMC has advocated for mandatory product stewardship of electrical equipment, tyres, agriculture and farm plastics, refrigerants and synthetic greenhouse gases. Three national hazardous waste product stewardship schemes were accredited by 2012 covering agricultural chemicals, refrigerants and paint.
	(b) By 2014, industries will develop at least two other accredited product stewardship schemes that result in the reduction in hazardous substance production at source.			No additional national product stewardship schemes that address hazardous waste have been accredited.
10.4 **Environmental effects relating to treatment and disposal facilities** Target and progress	(a) Maintain a single regional landfill that meets industry best practice for engineering, operation and monitoring.	22		Taranaki has a single regional landfill. Currently it is not meeting all consent requirements. Programmes are in place to address this

	(b) Landfills and cleanfills comply with environmental standards set out in relevant rules, resource consent conditions and guidelines.		▶	Compliance with environmental standards is continually assessed and reported annually Cleanfills have a mixed environmental performance depending on the facility, with most achieving between a good to high environmental performance.
	(c) Composting operations comply with environmental standards set out in relevant rules, resource consent conditions and guidelines		▶	TRC will continue to ensure environmental standards for Taranaki's composting operations are monitored and enforced. Composting operations in the region range from good to improvement required in environmental performance.
	(d) By December 2020, all substandard wastewater treatment facilities will be upgraded, closed or replaced with systems that comply with all relevant regional and coastal plans and resource consent conditions[20].		✓	Wastewater treatment facilities have been upgraded and are achieving a good to high environmental performance in relation to their relevant resource consents.
11.4 **Environmental effects relating to treatment and disposal facilities** Target and progress	(a) TRC will maintain information on contaminated sites, including an assessment of any environmental risk.	24	✓	TRC will continue to maintain the Register of Selected Land Uses (RSLU) database recording information about all sites that had been investigated (regardless of whether contamination is found to be present).
	(b) Information on previously unknown but potentially contaminated sites will be investigated and the site's risk will be categorised by the TRC within 12 months of first being identified as potentially contaminated.		✓	TRC will continue to respond to new information in a timely manner, utilising Local Government Official Information and Meetings Act requests and the RSLU for documenting sites.
	(c) All enquiries for information concerning 'contaminated' sites will be acknowledged within 5 working days by Taranaki's territorial authorities.		✓	Territorial authorities will continue to respond to public enquiries in a timely manner.
12.4 **Monitoring and review** Target and progress	(a) By 2015, the TRC will repeat the regional waste inventory and report on waste issues, pressures and trends in its state of the environment report.	26	✓ ▶	Waste issues, pressures and trends were reported in the 2015 State of Environment monitoring report. The waste inventory is being updated in 2016.
	(b) By 2015, NPDC will repeat its Landfill analysis.		▶	NPDC, as owner of the Colson Road landfill, will repeat the survey of the amount and composition of waste disposed of to the landfill in 2016 as part of its review of the WMMP. Together with the regional analysis, the results of this survey will be a key indicator of the effectiveness of measures adopted in this Strategy

[20] Substandard defined as not meeting consent conditions.