

NELSON CITY COUNCIL

Waste Management Plan

2005



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1 INTRODUCTION

1.1 PURPOSE

The purpose of this plan is:

- to incorporate national and local waste aims and policies in one document;
- to set the Council's future waste management direction.

The New Zealand Waste Strategy (March 2002) provides the strategic direction. This plan is an overview of Nelson City Council's approach to implementing the national strategy, rather than a detailed action plan. Technologies and practices will change with time and this plan needs to be flexible to incorporate these changes.

1.2 SCOPE OF THE PLAN

The New Zealand Waste Strategy defines waste as: "*Any material, solid, liquid or gas, which is unwanted and /or unvalued and discarded or discharged by its owner.*" This plan focuses primarily on solid waste. Liquid and gaseous wastes are addressed through reference to Council's Asset and Resource Management Plans.

This plan does not cover all the environmental impacts of waste, e.g. the effects of greenhouse gas or the effects of vehicle emissions, as these are addressed through other means.

This plan will not repeat information or direction already covered by other Council documents but will refer to them, where relevant.

This plan is written to comply with Section 539 of the Local Government Act (1974), which states that:

(1) *Every territorial authority:*

- (a) *Shall adopt a waste management plan; and*
- (b) *May from time to time –*
 - (i) *Amend its waste management plan; or*
 - (ii) *Revoke its waste management plan, and substitute a new waste management plan.*

(2) *Every waste management plan shall:*

- (a) *Make provision for the collection and reduction, reuse, recycling, recovery, treatment, or disposal of waste in the district.*
- (b) *Provide for its effective and efficient implementation, or for activities considered appropriate for that purpose to be undertaken by, or under contract to, the territorial authority.*

Section 286 of the Local Government Act (2002) states that a territorial authority must have a waste management plan adopted by 30 June 2005.

This Plan was adopted by Council on Thursday 7th April 2005.

Nelson City Council will review its waste management plan every three years.

2 NELSON'S WASTE

2.1 SOLID WASTE COMPOSITION

Figure 2.1 below shows the source and composition of waste to the York Valley landfill in 2003.

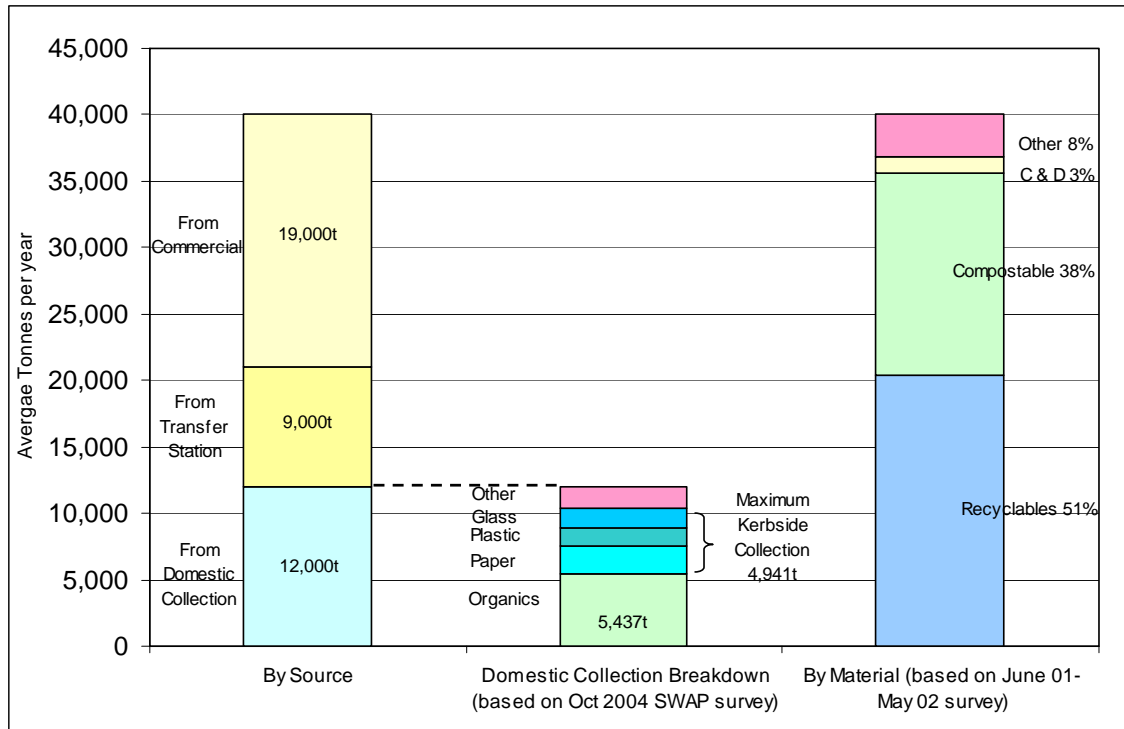


Fig 1 Source and composition of waste to York Valley landfill (2003)

The column on the left hand side shows where the waste delivered to landfill comes from. It can be seen that:

- 48% of waste is collected by the commercial sector.
- 22% of waste is dropped off at the Pascoe Street transfer station.
- 30% of waste is collected from the domestic kerbside collections.

The central column indicates the results of the waste survey carried out in October 2004 on household refuse left at the kerbside in Nelmac blue bags and Nelmac wheelie bins. The survey shows the average composition of household refuse as:-

- Food waste 36%
- Garden 11%
- Paper 16%
- Plastic 11%
- Glass 12%
- Other 13%

The proportion of household recyclable material in the domestic waste collection (paper, plastic and glass) is 39%. This equates to nearly 5,000 tonnes per year, although generic data from other recycling collection schemes shows average recyclable weights of 3kg per household per week (for bin systems), with an 85% household uptake, which equates to 2,255 tonnes/yr of recyclables.

The right hand column shows that landfill waste can be broken down into:-

- 38% compostable material and
- 51% recyclable material

This equates to 15,200 tonnes compostable material and 20,400 tonnes recyclable material on a disposal rate of 40,000 tonnes per year.

Greenwaste collected at the Transfer Station, cardboard collected and processed commercially and material collected and recycled by Kahurangi Waste Minimisation Services is not included in this analysis.

2.2 YORK VALLEY LANDFILL CAPACITY

The total capacity of the York Valley landfill is approximately 2.43 million tonnes. To June 2004, 776,525 tonnes of waste had been disposed to landfill. Since the opening of the landfill in 1987 the rate of waste to landfill has been increasing by approximately 5% per year, to its current rate of around 43,000 tonnes per year (excluding cover material).

Statistics New Zealand predicts the population of Nelson to increase over the next 30 years, at the same rate as it has done over the last 16 years. Fig 2 below shows the projected weight of waste to landfill each year (including cover material) increasing in line with the projected population growth.

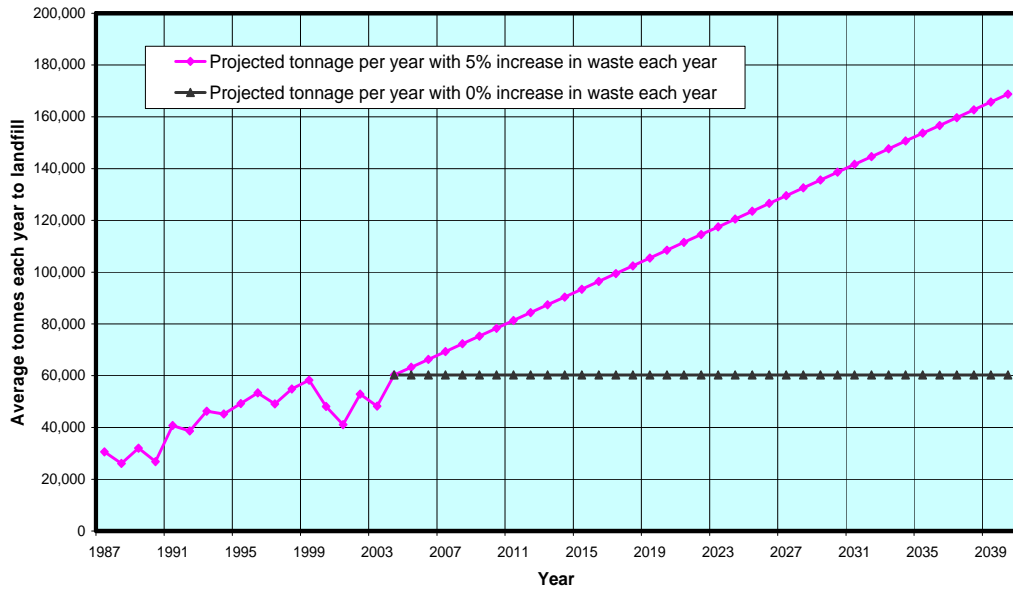


Fig 2 Annual projected rate of waste to landfill

This predicted rate of waste to landfill is portrayed in terms of the overall landfill capacity in Fig 3.

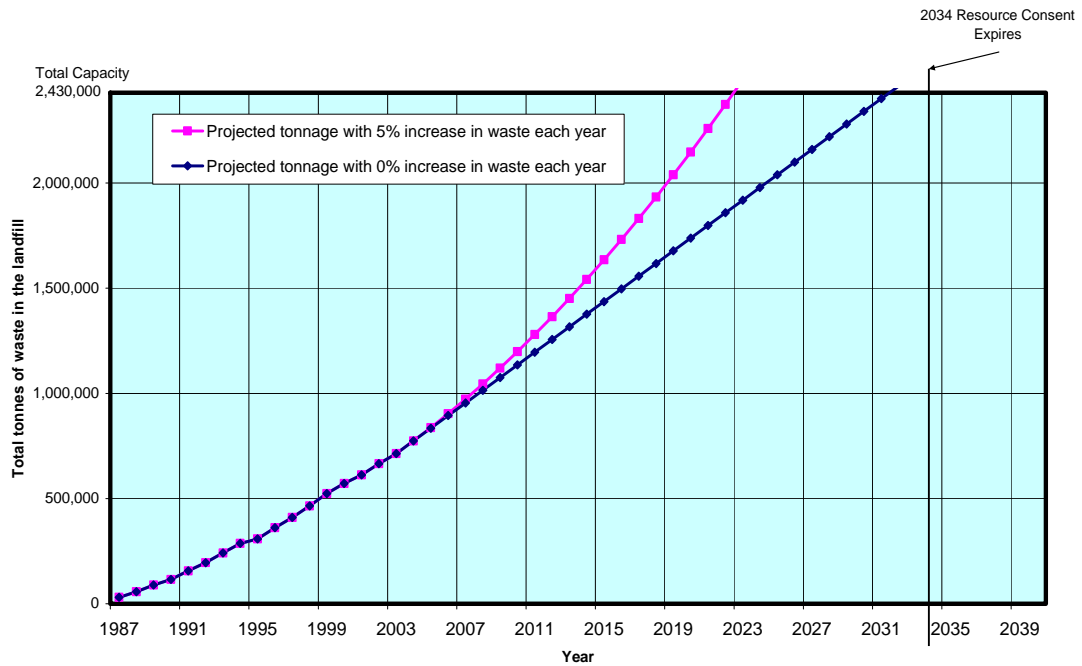


Fig 3 Total projected waste to landfill

The figure above predicts that the present landfill gully will be full in around 19 years time if there are no recyclables or organics diverted.

Council has designated other gullies within York Valley to construct additional landfills when required.



Fig 4 York Valley landfill

2.3 HISTORY OF WASTE MANAGEMENT IN NELSON

2.3.1 Atawhai and York Valley landfills

Prior to the opening of York Valley Landfill in 1987, rubbish was taken to the Atawhai Landfill, now known as Neale Park. In 1998 a gas extraction system was installed to reduce methane emissions from the York Valley landfill. Council has signed an agreement with Meridian Solutions to reuse the extracted gas for power generation. The landfill has a leachate collection system and strict environmental monitoring conditions and auditing procedures.

2.3.2 Waste collection

Up to 1997 Nelson City Council provided a rubbish collection service through Nelmac which included supplying 52 rubbish bags per annum. This was funded by a refuse rate. From 1997 the Council stopped charging a refuse rate and households were responsible for purchasing their own bags, or finding an alternative service provider. This structure has meant that private waste companies compete for Nelson's waste collection. Five companies regularly collect rubbish in Nelson.

2.3.3 Greenwaste processing

A privately owned composting centre was set up beside the Pascoe Street Transfer Station in 1998 but was discontinued in 2003. Since then, green waste taken to the Transfer Station has continued to be collected in a separate hopper, and is processed by a privately operated composting centre at Beach Road, Richmond.

2.3.4 Recycling operations

The established commercial and community managed reuse, recycling and recovery industry in Nelson makes a significant contribution to the Vision of this Plan. This industry is evidenced by outlets such as second-hand clothing and book shops, opportunity shops, recycled computer and whiteware shops.

The Nelson Environment Centre has operated a reuse shop at the Pascoe Street Transfer Station since June 1992. It also provided a drop off recycling centre for aluminium, metals, glass, oil and cardboard until 2002.

In 1996 the Nelson Environment Centre (NEC) and Council set up a kerbside recycling scheme, which collected plastics, paper, aluminium cans, cardboard and glass. This scheme stopped in 1998 when the local paper market ceased.

In 2001 the Council employed a recycling co-ordinator to develop a comprehensive recycling service for Nelson. In response to that work, the Council awarded a contract to Kahurangi Waste Minimisation Services (KWMS) in August 2003 to deliver a recycling service to Nelson residents. KWMS did not comply with the original intent of the contract so their contract was terminated. Council decided to maintain their service on a month by month basis to November 2004.

In October 2004 Council signed a contract with Nelmac to continue the kerbside recycling scheme. Nelmac collects the recyclable material and subcontracts the processing to the NEC, which operates a materials processing centre, a recyclable drop off facility and continues to run the re-use shop at the Council's Pascoe Street premises. The service utilises household recycling bins. All households, including new households, are supplied with bins, but additional or replacement bins must be purchased.



Fig 5: Pascoe Street Transfer Station

3 VISION & TARGETS

3.1 BACKGROUND

It is necessary to have a clear vision to guide waste management for the city. It is also necessary to have defined targets so that everyone can clearly understand the Council's strategies and measure the City's progress. The vision and targets identified in this section were developed from the strategies of several different documents, including the New Zealand Waste Strategy, the Nelson Community Plan, the Nelson Regional Policy Statement and the Nelson Zero Waste Strategy. The Council is committed to implementing this plan in accordance with the principles identified below.

3.1.1 New Zealand Waste Strategy

The New Zealand Waste Strategy, published in March 2002, was developed collaboratively by Local Government New Zealand and the Ministry for the Environment. It sets a national direction for making the change away from escalating waste generation and disposal and towards sustainable use of resources. The principles from the NZ Waste Strategy have been prepared to guide both central and local government.

The principles of the New Zealand Waste Strategy are:-

- ***Global citizenship***
Our responsibility to protect the environment extends beyond New Zealand's borders.
- ***Kaitiakitanga / stewardship***
All members of society are responsible for looking after the environment, and for the impact of products and waste they make, use and discard.
- ***Extended producer responsibility***
Producers have a degree of responsibility for their products throughout the product's lifecycle, from production through to final disposal.
- ***Full-cost pricing***
The environmental effects of production, distribution, consumption and disposal of goods and services should be consistently costed, and charged as closely as possible to the point they occur.
- ***Life-cycle principle***
Products and substances should be designed, produced and managed so all environmental effects are accounted for and minimised during generation, use, recovery and disposal.
- ***Precautionary principle***
Where there is a threat of serious or irreversible damage, lack of full scientific certainty should not be a reason for postponing cost-effective measures to prevent environmental degradation or potential adverse health effects.

3.1.2 The Nelson Regional Policy Statement

The Nelson Regional Policy Statement (March 1997) lists the following policies for waste management:-

- *To minimise solid waste generation and maximise the life of landfill sites through promotion of waste reduction, reuse, recovery and recycling.*
- *To ensure that all costs associated with the disposal of residual waste are borne by the waste generator.*
- *To ensure that adverse effects associated with operational landfill sites are avoided, remedied, or mitigated.*
- *To monitor disused landfill sites and take any appropriate action to remedy or mitigate adverse effects.*
- *To encourage the use of reusable, recyclable or recycled materials and investigate the use of economic instruments to achieve this.*
- *To work closely with adjoining territorial authorities in order to achieve integrated waste management in the upper South Island*

3.1.3 The Nelson Community Plan, 2004-14

The Nelson Community Plan (June 2004) outcomes support sustainable actions, now and into the future, by the Council and the community. There are three outcomes from the Community Plan which relate to waste management. They are:-

- *Growth in Nelson is consolidated and sustainable.*
- *Nelson has clean air, clean waterways, clean seas and healthy soils.*
- *Nelson minimises the amount of recyclable waste sent to landfill.*

3.1.4 The Nelson Zero Waste Strategy

The Nelson Zero Waste Strategy (February 2001) included the Council's commitment to "Zero Waste to Landfill by 2015", with a review of this goal in 2010.

The purpose of the zero waste goal is to instigate change in people's behaviour so that they minimise rubbish generation. While the goal seems difficult to achieve, it underlines a commitment by the Council to move away from traditional waste disposal policies and towards reduction, reuse, recycling and recovery strategies.

The intent of the Nelson Zero Waste Strategy has been incorporated into this document.

3.1.5 NGĀ TAONGA TUKU IHO KI WHAKATŪ MANAGEMENT PLAN

The general principles contained in the iwi management plan overlap with those of the NZ Waste Strategy listed in 3.1.1. They include:-

- *A sense of kinship with all things.*
- *A regard for natural resources as gifts from the atua (gods).*
- *A sense of responsibility for natural resources as kaitiaki (guardians).*
- *A sense of commitment to look after resources for future generations.*
- *An ethic of giving back what is taken from the environment.*

3.1.6 RESOURCE MANAGEMENT ACT

The principles of Section 5 of the Resource Management Act – “To promote the sustainable management of natural and physical resources” is recognised”.

3.2 VISION

The whole community works towards waste minimisation and a sustainable Nelson

Ma pango, ma whero, ke oti te mahi

Cutting down on the amount of waste we generate and discard, so that the community uses all its resources efficiently and at a sustainable rate, is the long-term challenge for Nelson.

3.3 TARGETS

Item	Targets	
Recyclables	Household kerbside recycling service	All households up to the Hira area, have access to a kerbside recycling service.
		80% of households are actively participating in kerbside recycling by June 2007.
	Commercial and industrial recycling service	Commercial and industrial businesses have access to a user pays recycling service by October 2005.
Organics	Greenwaste drop off facility	Charge for greenwaste at the Pascoe Street transfer station at the true cost of disposal. Where practicable, provide facilities for the separation and diversion of greenwaste at the transfer station when the disposal cost is equal to, or less than, the cost of disposal to the landfill.
	Additional greenwaste diversion	Prepare a feasibility report for additional diversion of greenwaste and household organic waste from the landfill, by Dec 2005.
	Home composting	Provide a compost and worm bin subsidy.
Other waste minimisation initiatives	Community, commercial and industrial waste education programmes	Prepare community, commercial and industrial waste education programmes by October 2005.
	Solid waste analysis	Carry out kerbside domestic waste surveys on a 4 year cycle. Carry out baseline landfill survey in 2005/06, and then every 3 years.
	Council facilities	Council will establish recycling facilities for the libraries and the Trafalgar Centre by June 2006 and maintain the existing Civic House recycling facilities. Council will investigate and trial the provision of recycling facilities for some Council funded community events in 2005/06.

4 STRATEGIES

4.1 RELATIONSHIP TO TASMAN DISTRICT COUNCIL

4.1.1 Current status

The close proximity of Richmond, Brightwater, and the Waimea basin to Nelson makes Tasman District Council (TDC) and Nelson City Council waste management actions and policies highly sensitive to each other.

As the policies of the two councils currently stand it is likely that York Valley landfill will receive an increasing proportion of TDC waste.

The TDC Waste Management Plan highlights a number of areas where policies differ. The most significant differences that TDC proposes are:-

- A ban on green waste to landfill in 2005.
- A ban on mixed waste to landfill by 2008, where mixed waste is defined as “unsorted refuse containing materials that can be reused or recycled”.
- A proposal to ban cleanfill to landfill by 2007.
- A cost increase to Richmond’s bag collection service.
- A user pays charge for collection and processing of recyclable materials in the Richmond, Brightwater, and Waimea basin area of \$40.00 incl. GST per household.
- A levy on all waste to landfill as a financial incentive to promote separation and to fund diversion initiatives.

The separate operation of the York Valley landfill in Nelson and Eves Valley landfill near Brightwater is of questionable efficiency and there may be significant benefits in the two councils combining landfilling operations, especially as regional minimisation policies become more aligned. However, the economic and environmental effects of increased transportation would also need to be taken into account when considering this option.

Council will need to consider the implications of the differences in policies and have increased liaison with TDC on waste policies with a view to avoiding TDC waste being disposed at the York Valley landfill.

4.1.2 Actions

- Collaborate on organics diversion strategies and prepare joint feasibility report, if possible.
- Continue to liaise with TDC on waste policies.
- Encourage future consideration of a combined NCC / TDC approach to waste management.

4.2 YORK VALLEY LANDFILL

4.2.1 Current status

Landfill charges are based on a user pays philosophy and have been calculated in accordance with the Ministry for the Environment full cost accounting guidelines. Incorporated in this calculation is the inclusion of:-

- internal roads
- vehicle wash, weighbridge and gatehouse operations
- the stormwater system
- the gas collection system
- the leachate collection system
- resource consent compliance monitoring costs
- York Valley Management Plan compliance costs
- landfill closure and aftercare costs

Waste is delivered to York Valley Landfill by private companies servicing the residential, commercial and industrial sectors. The public can dispose of waste at the Pascoe Street transfer station. Council contracts out the transporting of this waste to the landfill.

Section 542 of the Local Government Act (1974) gives the Council the power to prohibit or regulate the deposit of waste of any specified kind. Council could license collection services in order to:

- control the frequency of collections in each street per week
- the size and pick up location of bins on footpaths
- ban disposal of green waste to landfill
- ban disposal of recyclables to landfill

Waste companies offer bulk waste bins to households and the commercial sector. Some bulk bin payment plans encourage residents to throw away as much material as possible, which discourages waste minimisation. Council would like to see these companies taking a more proactive role in helping the community reduce waste. Council will be looking closely at these companies to determine if greater controls are necessary to achieve the vision of this plan.

4.2.2 Landfill charges

This Waste Management Plan recognises that the methods necessary to achieve waste minimisation and a sustainable Nelson are:-

- Reduction
- Reuse
- Recycling
- Recovery
- Treatment, and
- Disposal

By initiating achievable projects, which address high volume and easily diverted materials, such as recyclables and recovery of organics, greater progress can be made towards reducing waste to landfill. Progress on achieving the Vision will be assisted by the community, commercial and industrial waste education programmes which will promote behaviour change to address reduction, reuse, recycling and recovery.

Even with the implementation of achievable projects it is recognised that residual waste to landfill will continue for many years to come. As long as waste disposal to landfill is the most cost effective form of waste disposal there will be little opportunity to achieve the Vision.

When disposal to landfill is a cheap option, there is little economic incentive to minimise waste, to recycle or compost. Progress towards waste reduction to landfill and resource recovery cannot be sustained unless there is continued market development for organics and recyclables. A landfill levy that reflects the value Nelson places on reducing waste and sustainability will provide the necessary incentive for the community to reduce, reuse, recycle, recover and other diversion initiatives.

Council has decided that a landfill levy to fund waste minimisation initiatives will provide the necessary direction towards sustainability. The \$13.00 waste minimisation levy proposed reflects a 30% increase in landfill disposal costs in 2005/06 (from \$44.00/t to \$57.00/t including GST). The household waste composition survey carried out in October 2004 shows that, on average, if households participate in recycling then they will reduce their waste to landfill by 39%. Therefore, on average, households' overall waste disposal costs will reduce provided they participate in recycling. Households that do not participate in recycling will see an increase in their waste disposal costs. Households that process their food wastes at home, using compost bins or similar, will reduce their refuse disposal costs significantly in the long term.

Council recognises that this levy will have an impact on the commercial and industrial sector and has a target that a user pays recycling service for this sector is operational by 1st October 2005.

4.2.3 Actions

- Introduce a waste minimisation levy of \$13.00 per tonne, for the 2005/06 financial year, for all waste disposed to landfill, to fund the recycling contract and waste minimisation initiatives.
- Apply corresponding levy to mixed waste disposed at the Pascoe Street transfer station.
- If practicable, exclude the levy from separated greenwaste charges at the Pascoe Street transfer station at times when greenwaste diversion is operating.
- Review resource consent condition for landfill opening hours on Public Holidays in the Solid Waste Asset Management Plan.

4.2.4 Performance measures

- Record and report on tonnages of waste disposed to landfill.
- Compliance with resource consent conditions.

4.3 ORGANICS

4.3.1 Landfill

Organic waste makes up a large portion of Nelson's waste stream (approximately 38% or 15,000 tonnes per year based on the 2001/02 survey). The October 2004 waste survey showed that approximately 47% of household waste, placed on the kerbside for collection, consisted of organic material.

Anaerobic decomposition of organics in landfills generates leachate and methane. The York Valley landfill has a gas extraction system installed which captures approximately 32% of the methane produced. The system is being improved to increase this capture rate to an estimated 64% by 2009. Council has signed a contract with Meridian Solutions to use this gas. It is acknowledged that the landfill will continue producing gas for many years to come due to the decomposition of organic material already in the landfill and that any future methods to divert additional organics from the landfill are unlikely to achieve 100% diversion. The sale of the landfill gas does not commit Council to continued greenwaste disposal to landfill.

Approximately 68% of the methane produced in the landfill is released to the atmosphere as greenhouse gas. This figure will reduce by 32% to 36% by 2009 with the proposed gas extraction system improvements. The Government's preferred policy package on climate change includes a reliance on the New Zealand Waste Strategy to reduce methane emissions from landfills by approximately 35% by 2010. Progress made under the Strategy will be reviewed by the Climate Change Project in 2005.



Fig 6 Landfill gas flare

The capture of methane from organic decomposition is an inefficient way to recover the potential energy within organics. There are other methods of processing greenwaste (such as composting) that would capture the potential energy more efficiently while also lowering the long term methane emissions, reducing leachate and extending the life of the landfill.

It can be seen in Fig 7 below that if Council established policies that encouraged, say 85% of this green waste to be diverted from the landfill, then the life of the current landfill would be extended by approximately seven years.

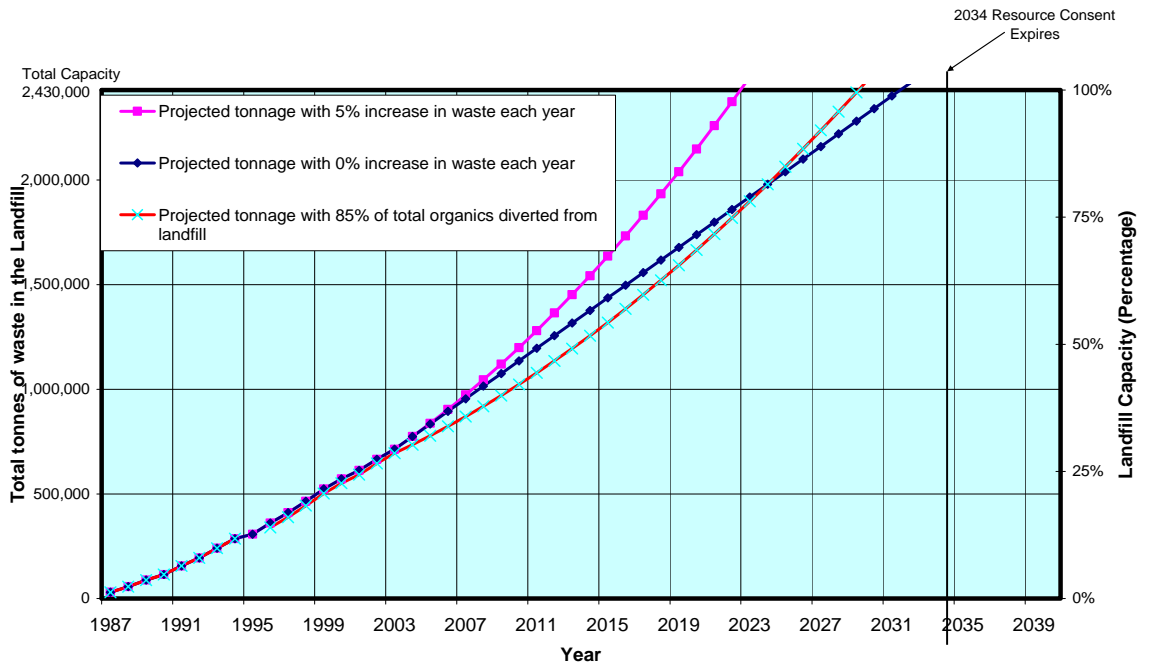


Fig 7 Total projected waste to landfill, including organics diversion

4.3.2 Pascoe Street Transfer Station

Greenwaste taken to the Transfer Station has continued to be collected in a separate hopper, and is processed by a privately operated composting centre at Beach Road, Richmond. Council issued a request for proposals with the intention of arranging a long term contract for the processing of this separated greenwaste in May 2004 and is in negotiations with submitters.

From July 2003 to June 2004 approximately 1,500 tonnes of greenwaste was separated and diverted from the landfill at Pascoe Street.

Where practicable, the landfill levy will not be applied to separated greenwaste disposal. Subject to contract negotiations, Council is intending to keep the greenwaste disposal charge at \$16 per m³ and increase the general refuse charge to \$20.00 per cubic metre, in 2005/06, thereby providing financial encouragement to the public to separate their greenwaste.



Fig 8 Pascoe Street Transfer Station Greenwaste hopper

4.3.3 Compost and worm bin subsidy

Council will continue to support a subsidy encouraging composting as part of the education programmes, with funding from the waste minimisation budget.

4.3.4 Actions

- Provide facilities for the separation and diversion of greenwaste at the Pascoe Street Transfer Station when the disposal cost is equal to, or less than, the cost of disposal to the Landfill.
- Structure the public charges for greenwaste at the Transfer Station to the true cost of disposal or processing.
- Prepare a feasibility report for the additional diversion of greenwaste and household organic waste from the landfill, by Dec 2005.

4.3.5 Performance measures

- Record and report on tonnages of greenwaste diverted from landfill from the Pascoe Street Transfer Station
- Record and report on utilisation of compost and worm bin subsidy

4.4 RECYCLING

4.4.1 Current status

In October 2004 Council signed a contract with Nelmac to continue the kerbside recycling scheme. Nelmac collect the recyclable material and subcontract the processing to the Nelson Environment Centre, who operate the materials processing centre, the recyclable drop off facility and the re-use shop at the Council's Pascoe Street premises. The service utilises household recycling bins. All households, including new households, have been supplied with bins, but additional or replacement bins must be purchased.

The service collects and processes the following materials:-

- Glass
- Paper and cardboard
- Plastics, types 1 and 2
- Aluminium and steel cans
- Non-ferrous metals
- Any other material for which a consistent market can be established

4.4.2 Key features of the recycling contract

For up to 2,500 tonnes per year of material collected and processed, the contractor will be paid on a rate per tonne basis. Over 2,500 tonnes per year the contractor will be paid a lump sum amount based on the number of households in Nelson.

The contract includes the provision of recycling promotion.

Provision shall be made for the Council or local businesses to purchase processed recyclable product for locally operated markets in preference to national or international markets.

The contractor has the option to temporarily withdraw drop-off facilities at Pascoe Street if excessive contamination of recyclables occurs.

4.4.3 Recycling bins

Council has purchased and distributed 55 litre recycling bins to each household, and new households in Nelson up to Hira, to encourage household recycling participation. The bins are manufactured from recycled plastic milk bottles. Households are entirely responsible for their bins and Council will not be liable for any loss, theft or damage to the bins. Additional bins will be available for purchase from Nelmac for \$11.50 each at 2004/05 prices.

4.4.4 Marginal recyclable materials

Council's priority is to increase diversion and consolidate markets for high tonnage materials from the landfill such as paper, plastics 1 and 2, glass and greenwaste, rather than increasing the range of recyclable materials in the short to medium term. The recycling contractor will be encouraged to investigate the feasibility of recycling more marginal materials in the waste stream.

It is acknowledged that due to transport costs and the low level of contamination allowed, the processing of glass in the South Island is marginal since the closure of the glass reprocessing plant in Christchurch. Council will assist the recycling contractor to investigate alternative uses for glass through a feasibility study to investigate the viability of using processed glass on Council engineering projects, such as in pipe bedding or surfacing, by December 2005.



Fig 9 Glass recycling

4.4.5 Commercial sector service

Nelmac will provide a user pays recycling collection and processing service for the commercial sector by 1st October 2005.

4.4.6 Actions

- Ensure all households up to Hira have access to kerbside recycling facilities.
- Target 80% of households to be participating in the kerbside recycling service by June 2007.
- Commercial and industrial businesses will have access to a user pays recycling service by 1st October 2005.
- Prepare a feasibility study for the reuse of glass on Council engineering projects by December 2005.

4.4.7 Performance measures

- Record and report annually on tonnages of recycled materials collected and dropped off at the Pascoe Street facility.
- Record and report on the tonnages of contaminated material collected and dropped off at the Pascoe Street facility.
- Record and report annually on the kerbside recycling participation rate.

4.5 ADDITIONAL WASTE MINIMISATION INITIATIVES

The Waste Minimisation Initiatives budget shall fund the following programmes:-

4.5.1 Waste Education programmes

The waste education programmes will be developed by October 2005. These programmes will be co-ordinated under the Councils Learning for Sustainability Strategy. They will provide the tools for promoting behaviour change to achieve the waste principles of reduce, reuse, recycle and recover.

The community sector programme will initially focus on promoting actions that divert household and garden waste from landfill. The promotion priorities will be established by Council in consultation with other stakeholders. The programme will address a broad range of issues such as schools recycling and composting, event promotion, Trash Trader website, liaison with Tasman District Council programmes, washable nappies promotion, compost bin surveys and education on use of compost and worm bins.

The commercial and industrial programme will focus on assisting small to medium sized businesses to participate in minimising production of solid and liquid waste. The recycling contractor shall promote the business sector recycling service through their user pays service. The programme will include business surveys, encouragement for businesses to prepare waste minimisation plans and close liaison with existing educators and Tasman District Council programmes.

4.5.2 Organics studies and subsidies

- Continuation of the compost and worm bin subsidy (see section 4.3.3).
- Prepare feasibility report for additional greenwaste and household organic diversion (see Section 4.3.1).

4.5.3 Recyclable material study

- Prepare feasibility report for the local re-use of glass (see Section 4.4.4).

4.5.4 Street recycling bins

(Funded from street refuse collection)

While it is acknowledged that street recycling bins are subject to high levels of contamination and vandalism, they are also highly visible and therefore help promote recycling and show that the Council is proactive about waste minimisation. Recycling bins could be installed in critical locations in the Central Business District, Tahunanui beach car parks, Saxton Field and Strawbridge Square in Stoke. Council has passed a resolution to install two recycling bins in the CBD. Their viability will be reviewed in June 2006.

4.5.5 Government strategies

- Council will continue to lobby central government to introduce a tax on cars when they are first registered to offset the disposal costs of the cars at the end of their life.
- Council supports the government initiative to reduce the impact of end of life tyres through its Tyre Track programme.
- Council supports the government initiative to improve the sustainability of packaging through the Packaging Accord 2004.
- Council will continue to advocate to Central Government any other waste minimisation issues it deems appropriate.

4.5.6 Solid waste analysis

It is essential to analyse the region's waste generation to accurately plan and predict future waste disposal and minimisation methods.

The weighbridge at York Valley records all material deposited at the landfill. A fortnightly visual assessment was carried out between June 2001 and May 2002 on waste at the transfer station and York Valley landfill and in October 2004 a waste composition survey was carried out on kerbside domestic waste and transfer station waste.

The recent kerbside domestic survey provided excellent baseline data. It is proposed that a cycle of data be established over a 4 year period, with additional kerbside domestic surveys to be carried out as follows:-

- Autumn 2005 – 2 days
- Winter 2005 – 2 days
- Summer 2006 – 2 days
- Spring 2006 – 2 days
- Spring 2007 – 2 days
- Spring 2008 – 10 days

In conjunction with data gathered from the recycling contract and from the Pascoe Street hoppers, this will provide the Council with comprehensive and accurate data on the domestic waste stream.

The region's commercial and industrial waste is generally transported directly to the landfill, although some material is currently being recycled. Obtaining data on private commercial and industrial waste generation and recycling is difficult. It is proposed that a comprehensive composition survey be carried out at the landfill, excluding domestic and Pascoe Street loads, over a period of 10 days, in the 2005/06 financial year, and then every 3 years.

4.5.7 Nelson City Council owned facilities (Funded from rates but included in this budget)

The Civic House recycling scheme has been running since January 2003. Where practicable, it is proposed to extend this scheme by June 2006 to include Council's other facilities listed below.

- Trafalgar Centre,
- Elma Turner Library,
- Stoke Library,
- Nightingale Library Memorial,
- Founders Historic Park

A trial recycling facility is proposed for specific NCC events in 2005/06 with a view to providing ongoing services.

In future Council could also investigate the viability of extending the recycling scheme to other assets such as the motor camps and marina.

4.6 CONSTRUCTION AND DEMOLITION WASTE

The June 2001 – May 2002 visual survey identified that approximately 3% of the waste received at York Valley landfill was from construction and demolition. This low level may be due to the provision of several cleanfill sites in the region. The proposed landfill composition analysis will provide more up to date and accurate information.

Monitoring of private cleanfills has been increased in 2004 to ensure they meet the standards specified in ‘A Guide to the Management of Cleanfills’, published by the Ministry for the Environment, 2002. With two exceptions, these sites are being used to dump demolition materials. Environmental Inspections Ltd. will be carrying out random checks to monitor the types of materials being deposited at these sites.

However, the Council can also improve its control of private cleanfills by requiring bonds to cover monitoring of environmental effects beyond closure date. This may result in more of the environmental effects of private landfills being included in the disposal costs.

4.6.1 Action

- Notify Resource Management Plan change in 2005 to enable greater control of what is disposed at private cleanfills.
- Continue monitoring of cleanfill sites.

4.6.2 Performance measures

- Cleanfills comply with relevant legislation and resource consents.

4.7 HAZARDOUS WASTE

Waste is considered hazardous if it poses a risk to people or the environment by not being managed, stored or disposed of properly. Hazardous wastes include a large range of materials, from explosives to ecotoxic substances.

The Government's Hazardous Substances and New Organisms Act, 1996 (HASNO) controls hazardous substances from the moment they are made or arrive in New Zealand to their end use, export or disposal. These controls are designed to manage the intrinsic risks of hazardous substances across their life cycle, irrespective of their location.

The Resource Management Act (RMA), on the other hand, controls the potential and actual release of any contaminant into the environment, together with any actual or potential adverse effects on the receiving environment. The RMA also controls the use of land for the storage, use, disposal, or transportation of hazardous substances.

Council's draft Hazardous Waste Management Plan (2000) provides guidelines for the receipt, handling, storage and disposal of hazardous waste at the Pascoe Street transfer station and York Valley landfill, to ensure compliance with the resource consent for the landfill.

Household hazardous waste is accepted at the Pascoe Street Transfer Station. Certain commercial hazardous wastes are accepted at York Valley landfill provided they comply with the landfills resource consent conditions. Generally industrial and commercial hazardous waste generators are encouraged to liaise direct with specialist hazardous waste disposal companies. Council will act as an adviser to hazardous waste generators to ensure that the waste is disposed of in accordance with national and local regulations. Council will undertake to inform the public of appropriate methods of handling and disposal of hazardous waste in the Hazardous Waste Management Plan.

Liquid hazardous wastes are sometimes tipped into stormwater drains, or dumped to sewer without a discharge permit. Currently, there are limited powers for councils to track the management of hazardous waste.

It is intended that the document be updated every three years in conjunction with Council's Waste Management Plan or as required by the York Valley landfill management plan.

4.7.1 Action

- Update the Hazardous Waste Management Plan in conjunction with the Waste Management Plan.

4.7.2 Performance measures

- Compliance with Hazardous Waste Management Plan.

4.8 SCRAP METAL

Small scrap metal items can be delivered to the recycling centre at Pascoe Street.

Light gauge metal items can be dropped off at the transfer station for delivery to the landfill. These items are stored at the landfill and then compacted and transported to Christchurch at the same time as the car bodies. Other metals should be delivered to local scrap metal merchants.

Car bodies, once stripped of upholstery, all fluids, tyres, front and rear windows, LPG/CNG bottles and registration plates, can be taken to the landfill where they are stockpiled, compacted and transported to Christchurch on a regular basis (4-6 monthly).

A recurring issue is old cars being abandoned and burnt out on Council property. Between July 2003 and June 2004 Council processed 179 vehicles at a cost to rates of \$30,000. Council accepts they have little option but to collect these vehicles and will continue to lobby government to help find a more equitable solution as stated in Section 4.5.5.

4.8.1 Action

- Record weights of scrap metal diverted from landfill annually.

4.8.2 Performance measures

- Tonnages of scrap metal sent for recycling via the materials processing centre.
- Tonnages of scrap metal transported to Christchurch from the landfill.



Fig 10: Scrap Metal Crushing at York Valley Landfill

4.9 CONTAMINATED SITES

Contaminated sites in New Zealand are a legacy of inappropriate handling and management of hazardous chemicals, as well as previously accepted disposal practices.

Both land which is known to be contaminated, and potentially contaminated sites, have that information registered on the Council's Geographical Information System, which is used to generate land information memoranda in response to public enquiries.

The Council is working through its list of potentially contaminated sites with the landowners to establish whether there is actual contamination. In a number of cases the contamination is below national guidelines levels.

Contamination of service station sites has been reduced through the replacement of older underground storage tanks with newer tanks either above or below ground. Thirty tanks have been removed in the past few years.

4.9.1 Actions

- Council will continue to assist site owners to remediate contaminated sites.
- Council will require certification as a condition of consent where residential subdivisions are proposed on land that has previously been used for horticultural purposes.
- Council will implement the outcome of the amendments to the Hazardous Substances and New Organisms Act 1996.

4.10 LIQUID WASTE

The New Zealand Waste Strategy contains a number of liquid waste targets including the requirement for all substandard wastewater treatment facilities to be upgraded, closed or replaced by 2020.

4.10.1 Freshwater plan change (2004)

This plan change to the Nelson Resource Management Plan includes policies and rules controlling contaminants entering Nelson's rivers. Contaminant wastes which impact on water quality include nutrients, heavy metals, fine sediments and faecal bacteria. Rural streams are affected by diffuse sources of runoff from livestock, fertiliser, and forestry activities.

The freshwater plan change proposes that a reticulated stormwater quality improvement plan be developed by April 2006 to progressively identify and reduce sources of urban contaminants. Fencing and planting is the main way to prevent nutrients, faecal bacteria and fine sediment from entering rural streams.

4.10.2 Wastewater Asset Management Plan (2002)

There is increasing capacity demand on existing wastewater infrastructure. In addition to this demand, infrastructure has to cope with high stormwater inflow and infiltration rates. The Wastewater Asset Management Plan addresses this issue with a programme of improvements.

4.10.3 Stormwater Asset Management Plan (2003)

The objectives of the Stormwater Asset Management Plan include reducing the adverse effects of both point source and non-point source contamination.

4.10.4 Roading Asset Management Plan (2003)

The Roading Asset Management Plan identifies contaminant runoff through roading stormwater, chemical spills and chemical sprays as issues to be addressed.

4.10.5 Trade Waste Management Plan (2004)

Council will update its Bylaw in 2005/06 using the New Zealand guidelines for model Trade Waste Bylaws as an appropriate standard.

4.11 GASEOUS WASTE

The main concern in Nelson is the effect of small particles (PM₁₀) on human health. It is estimated that on the worst nights, just under two tonnes of PM₁₀ are emitted across the whole of Nelson. The main sources of PM₁₀ are:

- Domestic heating 78%
- Industry 14%
- Transport 4%
- Outdoor burning 4%

Ecosystems can be harmed by air pollutants. This may include impacts on ecosystems that are close to trade and industrial premises that emit sulphur dioxide, sulphur particulate, nitrogen dioxide, ammonia, ozone and other air pollutants. Currently it is believed, apart from abrasive blasting near water or the sea, that there are no such processes of a scale large enough to cause concern to ecosystems in Nelson.

The main global air quality issues are increases in greenhouse gases (carbon dioxide, methane and nitrous oxide). These impacts result from increasing emissions from industry, agriculture, motor vehicles and electricity generation, and deforestation. The role that Nelson City Council has in reducing these gas emissions through its resource consents process is limited by national controls. However, consideration of global effects such as ozone depletion can be made in some instances, such as the use of methyl bromide for fumigation purposes.

Discharges to air are addressed in the Proposed Air Quality Plan (notified 23 August 2003).

APPENDICES

REFERENCES

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APPENDIX B

GLOSSARY

Asset Management Plan (AMP)	A plan developed for the management of infrastructural asset that applies technical and financial management techniques to ensure that a specified level of service is provided in the most cost effective manner over the life cycle of an asset.
Commercial Waste	The part of the waste stream originating from part of business or commercial operations.
Compost	Material resulting from the controlled microbiological transformation of organic materials under aerobic and thermophilic conditions.
Contaminated Sites	Contaminated sites are land areas where hazardous substances are in concentrations above those occurring naturally and are a risk to human health or the environment. They include service stations, farm sheep dips, timber treatment sites, closed gasworks, landfills and scrap yards.
Disposal	Final deposit of waste on land set apart for the purpose.
Gaseous Waste	Gaseous waste consists of gases and small particles carried by air. It includes dust, fumes, smoke and vapour resulting from fires, industrial processes, vehicles and spray drift.
Green Waste	Garden waste.
Hazardous Waste	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.
Landfill	A landfill is an area used for the controlled disposal of solid waste.
Leachate	Liquid effluent from a landfill which usually contains substances derived from the materials deposited in it.
Liquid Waste	Liquid waste is waste generated in, or converted to, a liquid form for disposal. It includes point and non-point source discharges, stormwater and wastewater.
Organic Waste	Organic waste includes garden and kitchen waste, food process wastes, and sewage sludge.
Performance Measures	Statement of intended results for an output or activity during the year. They must be consistent with corporate objectives and measurable at the completion of the activity. Managers are accountable for their achievement, they are subject to independent audit and the results are reported in Business and Annual Plans.
Recovery	The extraction of materials or energy from waste for further use or process, and includes but is not limited to, making materials into compost.
Recycling	Processing of waste materials to produce new products
Reduction	Lessening waste generation
Reuse	The further using of products in their existing form for their original purpose or a similar purpose.
Solid Waste	Solid waste is 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.
Stormwater	Stormwater results from rainwater runoff that is channelled through drains from roads and urban properties into waterways and the sea.

Trade Waste	Trade waste refers to liquid wastes generated by business and disposed of through the sewerage system. Trade waste includes a range of hazardous materials resulting from industrial and manufacturing processes.
Transfer Station	A facility set up to act as an intermediary between the waste generator and final deposit site.
Waste	This strategy defines waste as any material, solid, liquid or gas, that is unwanted and/or unvalued and discarded or discharged.
Waste Audit	A process to ascertain the quantity and types of waste generated at a given point source
Waste Hierarchy	The waste hierarchy orders preferred waste management options. The most preferred option is re-use, followed by recovery, recycling, treatment and, lastly, disposal.
Waste Minimisation	Waste minimisation refers inclusively to all activities aimed at preventing, reducing, re-using or recycling waste.
Wastewater	Wastewater is a by-product of sewage, and liquid trade waste collection.
Zero Waste	The Zero Waste New Zealand Trust is a funding, advocacy, support and information group fostering community development projects for minimising waste. The Trust has worked with many New Zealand Councils to set targets of zero waste to landfill.

SUMMARY OF ACTIONS AND WORK PROGRAMME

Year	2004	2005	2006	2007
Landfill and Pascoe St Transfer Station				
Landfill and transfer station price increase		■		
Recyclables				
Commercial and industrial user pays recycling service		■		
Other Waste Minimisation Initiatives				
Prepare community and commercial sector waste awareness programme		■		
Greenwaste feasibility report		■		
Feasibility report on re-use of glass		■		
Review viability of street recycling bins			■	
Kerbside domestic waste analysis		■	■	■
Landfill baseline waste analysis survey		■		
Recycling facilities for libraries and Trafalgar Centre			■	
Trial for recycling service to Council funded community events		■	■	