



SECTION TWO

PRESSURES ON MARLBOROUGH'S ENVIRONMENT

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Chapter 2: Waste



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Waste

Briefly

Waste volumes have steadily increased in recent years as population and local industries have grown. If not properly managed, this volume of waste has the potential to significantly affect our way of life and our environment. This is because the release of waste into the surrounding environment is likely to contaminate the resources we currently rely upon, the soil, the water in the sea, rivers, lakes, wetlands, aquifers and our fresh air. There is also a risk of illness or disease if people come into direct contact with the waste.

ISSUES

- The large volume of waste that is produced.
- Dealing with hazardous wastes.
- Waste generated in the Marlborough Sounds and remote areas.
- Illegal dumping of waste.

PRESENT AND FUTURE MANAGEMENT

Central government initiatives are playing a significant role in directing the management of waste. In the last 5 years nation-wide standards have been introduced for disposal of hazardous waste and to control the release of gaseous wastes into air. The New Zealand Waste Strategy 2002 contains national targets for minimising waste and to reduce environmental damage from waste. The most recent initiative has been the Waste Minimisation Act 2008, which in its efforts to move New Zealand towards zero waste, places a levy on all waste disposed of in landfills to generate funding to help local government, communities and businesses reduce the amount of waste.

Waste Strategy for Marlborough

The Council developed its own Waste Strategy for Marlborough in 2005. This builds on targets in the New Zealand Waste Strategy but also includes local targets. These targets are intended to work towards an overall objective of zero waste in Marlborough. The principles to achieve this goal are through reduce, reuse, recycle and recover waste, and then ensure whatever is left over, can be disposed of.

Sustainable living programmes

Sustainable living programmes were set up and managed nationally by the Council for a number of years. The programme is to help householders to reduce their impact on the environment through practical tips and techniques on things such as sustainable shopping, waste wise, composting and organic gardening. Now run by a charitable trust, over 400 people have attended seminars in Marlborough on these topics.

The Council also runs the Enviroschools programme, where students get to experience the environment and make a positive difference to it from activities like creating organic edible gardens, adopting a stream and monitoring and improving its health, or reducing water waste in schools. By the end of 2008, 15 schools in Marlborough (almost half of all Marlborough's schools) were part of the programme.

Landfills

When the Council's first state of the environment report was released in 1994, there were eight landfills operating, some with open access to the public and only one (Rai Valley) being an engineered site. Today, the Council operates seven transfer stations, in Blenheim, Picton, Havelock, Rai Valley, Wairau Valley, Seddon and Ward. Waste is transported from the transfer stations to the regional landfill near Blenheim. (The Council also provides four coin operated skips in the Marlborough Sounds.)

Waste analysis surveys carried out by the Council at the landfill over the past six years have shown significant increases in volumes of waste dumped. From 2006 to 2008 the total volume of waste has





increased from 780.5 tonnes to 1,747.3 tonnes. While there has been a decrease in the amount of residential waste in the totals over this period, there has been a significant increase in industrial waste.

Since 2007 the increase of waste from vineyards and wineries has been significant with 38% of all waste assessed in the April 2008 survey coming from this source.

Recycling

In 1994, there was limited opportunity available for recycling at all of the Council's then landfills. Some limited collection points were available for the recycling of cardboard, glass, paper and aluminium. Trials were also underway for a composting operation at the Blenheim landfill to reduce the amount of green waste being dumped.

Today a range of recyclable materials are able to be dropped off at six of the Council's transfer stations. The Council also operated a recycling centre drop-off facility in central Blenheim for several years prior to the new Recycling Recovery Centre being opened in late 2008 near the

Blenheim transfer station. Before the opening of this new centre, over 120 customers were visiting the central Blenheim recycling drop-off each day in 2008. At the Resource Recover Centre up to 600 people per day drop off their recyclables.

A composting facility for greenwaste is still operating at the Blenheim transfer station.

Over the past decade it has become increasingly difficult for areas outside Auckland to have their glass bottles recycled. Because there has been no market for recycling of glass bottles from Marlborough, trials were carried out to see if crushed glass could be used in roading basecourse material. Trials were successful and since the middle of 2007, all glass collected at the Council's transfer stations for recycling, has been processed for this purpose.

At the beginning of 2007, Blenheim Transfer Station became one of New Zealand's 43 drop-off sites for empty chemical containers through the "Agrecovery" scheme. Empty chemical containers are stockpiled until there is a load large enough to warrant a visit by the Agrecovery truck, which is equipped with an inbuilt plastic shredder. Once shredded the plastic is sold to plastic re-manufacturing companies.

Mobile plastic container shredder



Waste



In depth

After the USA, New Zealand produces more waste than any other country in the world per head of population. In Marlborough alone, we produce approximately 50,000 tonnes of waste annually, which is equivalent to about 1 rugby field 15 stories high! Waste volumes have continued to rise in Marlborough because of increases in population, growth in our local industries and the production of more packaging and one use items.

Unmanaged, this volume of waste has obvious implications for the environment in terms of contaminating land, water and air resources. For this reason, the Council provides waste collection services (through kerbside waste collection in urban areas and transfer stations in rural and urban areas) and a regional landfill for safe disposal. Even when waste is managed in this co-ordinated way, there is still the need to collect and manage the gas and leachate caused by the decomposition and breakdown of waste within the landfill. There is a considerable cost associated with the operation of this waste management infrastructure.

Almost all solid waste generated in Marlborough is landfilled in the Council's regional landfill, known as "Bluegums", off Taylor Pass Road. There is no public access to Bluegums landfill. Instead, the Council operates seven transfer stations - in Blenheim, Picton, Havelock, Rai Valley, Wairau Valley, Seddon and Ward. Waste is transported from the transfer stations to the regional landfill. (The Council also provides four coin operated skips in the Marlborough Sounds.) This is in stark contrast to how solid waste was disposed of back when the Council's first state of the environment report was released in 1994. At that time there were eight landfills operating in Marlborough, some with open access to the public and only one (Rai Valley) being an engineered site.

In the past there has probably been some complacency about ongoing disposal of the considerable volumes of waste generated in Marlborough. But things are changing - increasing environmental awareness and the increasing costs of landfill disposal are driving community interest in waste minimisation as an alternative. While the focus for this chapter is on managing solid waste, there is some discussion about liquid wastes and hazardous wastes.

NATIONAL OVERVIEW

The Local Government Act 1974 requires the Council to promote effective and efficient waste management within Marlborough as well as developing plans for managing waste through the reduction and reuse. Councils can make bylaws to prohibit the dumping of waste, regulate waste collection and transport, and set charges for the public use of landfills and other waste management facilities.

The Hazardous Substances and New Organisms (Approvals and Enforcement) Amendment Act 2005 established standards, known as 'group standards', for groups of materials with similar hazards. These standards were introduced to ensure the safe disposal of hazardous waste, and to provide data on hazardous waste generation and disposal.

National environmental standards

Fourteen national environmental standards were introduced in 2004 under the Resource Management Act 1991 to control the release of gaseous wastes into the air. The standards include:

- The banning of various activities that discharge unacceptable quantities of dioxins and other toxins into the air (such as lighting fires and burning waste at landfills, the burning of bitumen, tyres, coated wire, and oil).
- Prohibiting the use of school and healthcare incinerators without resource consent and requiring new high temperature hazardous waste incinerators.
- A design standard for the collection and destruction of landfill gas at large landfills.

New Zealand Waste Strategy

The New Zealand Waste Strategy sets out central government's framework for the management and minimisation of waste. This was prepared together with Local Government New Zealand and councils, and was launched in 2002. The strategy is designed to implement central government's intention to reduce the waste stream and local government's desire for more effective and efficient waste minimisation and management.

There are three core goals:

- To lower the costs and risks of waste to society.
- To reduce environmental damage from the generation and disposal of waste.
- To increase economic benefit by using material resources efficiently.

National targets for waste minimisation, organic wastes, special wastes, construction and demolition wastes, hazardous wastes, contaminated sites, organochlorines, trade wastes and waste

disposal are established to meet these goals. Programmes are included within the strategy to help achieve these targets. The strategy itself has no legal status and therefore relies upon voluntary action.

The Ministry for the Environment's 'Environment New Zealand 2007' reports that progress against the targets has been reviewed regularly with the most recent review showing that, while much of the groundwork had been laid for achieving the wider goals and objectives, progress against meeting the strategy targets has been variable. Good progress has been made in providing community recycling facilities and 'green waste' schemes. Environment 2007 also states that central government has made progress in engaging with businesses and in developing guidelines to improve the management of landfills and hazardous wastes. However, less progress has been made in reducing commercial, organic, and construction and demolition wastes; improving the management of cleanfills; and identifying and managing contaminated sites.

[For more information on the New Zealand Waste Strategy go to www.mfe.govt.nz/publications/waste/]

The Waste Minimisation Act 2008

This legalisation encourages a reduction in the amount of waste we generate and dispose of and in doing so it aims to lessen the effects of waste on the environment. Until the introduction of the Waste Minimisation Act, waste minimisation had largely been based on voluntary initiatives. However, it has been recognised that for New Zealand to move towards zero waste a more concerted effort that includes in some cases the introduction of rules and regulations is required.

The main features of this new legislation are that it:

- Puts a levy on all waste disposed of in landfills to generate funding to help local government, communities and businesses reduce the amount of waste.
- Helps and when necessary, makes producers, brand owners, importers, retailers, consumers and other parties take responsibility for the environmental effects from their products at end-of-life - from 'cradle-to-grave'.
- Allows for regulations to be made making it mandatory for territorial authorities and others (for example, landfill operators) to report on waste to improve information on waste minimisation
- Clarifies the roles and responsibilities of territorial authorities about waste minimisation.

- Introduces a new Board to give independent advice to the Minister for the Environment on waste minimisation issues.

[For more information on the Waste Minimisation Act go to <http://www.mfe.govt.nz/issues/waste/>]

WASTE MANAGEMENT ISSUES

Knowing where Marlborough's waste come from

Since 2002, the Council has had 10 waste analysis surveys undertaken at the regional landfill. The analysis was carried out using the Solid Waste Analysis Protocol developed by the Ministry for the Environment. This protocol aims to ensure that data is gathered consistently so the information can be used as a tool for managing and monitoring waste streams, and for reporting on both a local and a national scale.

The surveys are conducted over six day periods, where all loads are visually assessed and recorded by weight or percentage of load volume along with information on the mode of transport and origin of refuse. The waste is first classified into one of 12 categories, called a primary classification. Where more detail is required about a particular waste stream, a secondary classification can be applied e.g. timber as a classification can be further broken down into treated and untreated categories and plastics into recyclable and non recyclable categories.

A sample of official kerbside rubbish bags are also analysed to determine their primary and secondary classification values. These values are then applied to all loads of kerbside bags collected during the survey period. All survey results are presented by weight or percentage weight.

One of the important aspects of the most recent survey carried out in April 2008, was to measure the amount of vineyard and winery waste from the annual harvest. A significant increase in vineyard and winery waste had been noted during the April 2007 waste analysis survey. Because of the potential implications of significant increases in waste going into the landfill, the Council wanted to specifically record this source of waste during the 2008 survey.

Origin is recorded as one of three categories: 'Industrial', 'Residential', or 'Kerbside' collection. The values for the origin of rubbish from 2006 through until 2008 are shown in Table 2.1. There is a significant increase in the amount of industrial waste that has gone into the landfill in the 2008 survey as compared with the 2006 survey. This is a direct reflection of the increased volumes of vineyard and winery waste. The box 'Vineyard and Winery Waste' provides more information on this source of waste.



TABLE 2.1: ORIGIN OF REFUSE 2006 - 2008

Origin	2006		Year 2007		2008	
	Weight kgs	Percentage	Weight kgs	Percentage	Weight kgs	Percentage
Industrial	414,081	53.0%	1,143,651	77.9%	1,446,285	82.8%
Residential	308,911	39.6%	272,470	18.5%	243,256	13.9%
Kerbside	57,550	7.4%	52,300	3.6%	57,767	3.3%
Total	780,542	100.0	1,468,421	100.0	1,747,308	100.0

Figure 2:1 shows the primary classification values by percentage for the 2008 survey. (The values are determined by weight but are most often displayed as a percentage of the waste stream.)

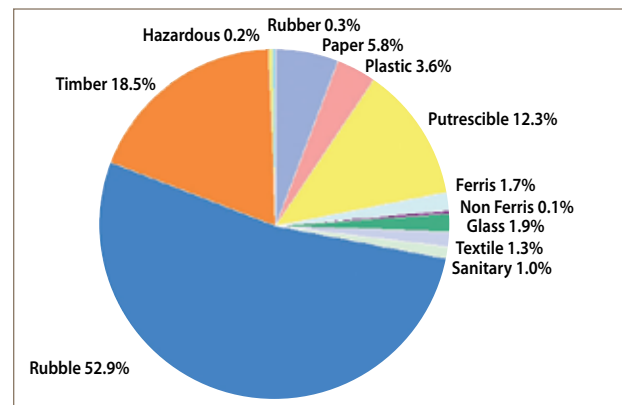
The 2008 survey recorded the highest values by total volume and total weight since waste analysis studies started. The weight increase was over 80% greater than the previous survey in December 2007. This increase is attributed to a seasonal factor related to the viticulture and wine industry over the harvesting and initial processing of grapes.

The second major influence on this survey was the quantities of demolition material received, with four separate demolitions being noted. These being the old Cuddons workshops in Horton Street, the fire damaged stables at the Waterlea racecourse and two fire damaged dwellings. All demolitions involved quantities of rubble but there were particularly large quantities of untreated timber involved.

The Ministry for the Environment maintains a database on results from the waste analysis surveys carried out for a number of sites throughout New Zealand. Four indicator sites from around New Zealand are used to provide a percentage mean for each primary category of waste. The indicator sites are Silverstream Landfill in Lower Hutt, Green Island Landfill in Dunedin, Matamata Transfer Station and Kaikoura Landfill. The latest figures on the Ministry's website have not been updated since September 2004; however this 2004 information is shown in Table 2.2, along with data from Lower Hutt, Kaikoura and the last six studies at Marlborough's regional landfill.

Increases in the tonnage of grapes to be harvested and processed through wineries using the Council's tradewaste system are projected to be a further 41,000 tonnes by 2011/2012. Given this, the Council is considering how this increased tonnage can be accommodated, especially as an expansion of industrially zoned land in the area may also see more wineries establish within the industrial estates.

FIGURE 2.1: PRIMARY CLASSIFICATION VALUES OF THE TOTAL WASTE STREAM FOR 2008



Dealing with hazardous waste

Hazardous substances are used every day in manufacturing, industrial, agricultural, horticultural and viticultural activities. Hazardous substances are those that readily explode, burn, oxidise (accelerate the combustion of other material) or corrode (metals or biological tissue), and/or are toxic to people and ecosystems. Even at home, when we change the oil in our car or paint the house, we are using hazardous substances. When those substances are no longer wanted or are no longer economically usable, they become hazardous waste.

Hazardous wastes may only form a small part of the general waste stream, but by their very nature they have the potential to do the most damage to people and the environment. There is a significant risk to human health and the environment if hazardous wastes are not managed properly. The inappropriate storage and disposal of hazardous waste in the past has left a legacy of contaminated sites. For example, tar pits and gas production by products have contaminated the land at the old gasworks site in Blenheim. (Contaminated sites are described in the Land chapter of this report.)

TABLE 2.2: BASELINE DATA - BY PERCENTAGE OF WASTE STREAM

Category	New Zealand mean	Lower Hutt	Kaikoura	Marlborough	Marlborough	Marlborough	Marlborough	Marlborough	Marlborough
	2004	Dec 04	Sept 04	Nov 03	Jan 05	Sept 06	April 07	Dec 07	April 08
Paper	11.5	11.0	9.0	14.0	11.5	10.3	8.6	10.4	5.8
Plastic	7.6	7.6	12.8	12.4	11.1	10.0	5.1	5.2	3.6
Putrescible	22.0	21.2	24.9	20.1	26.0	23.0	19.5	20.9	12.6
Ferrous	6.0	8.0	3.5	4.8	1.6	5.0	1.9	2.7	1.7
Non ferrous	0.9	1.1	2.6	0.1	0.1	0.2	0.2	0.2	0.06
Glass	2.8	2.3	1.5	2.3	3.7	3.5	2.0	3.1	1.9
Textiles	5.6	9.0	2.7	0.9	0.7	1.7	1.7	2.0	1.3
Sanitary	1.8	0.8	3.3	0.4	0.2	1.4	0.8	1.0	1.0
Rubble	19.1	16.4	22.3	22.0	37.6	24.7	45.5	34.6	52.9
Timber	11.7	15.5	14.6	22.7	7.4	19.0	11.1	19.3	18.5
Rubber	1.8	1.6	2.5	0.4	0.2	0.8	0.3	0.6	0.2
Hazardous	9.2	5.5	0.3	0.01	0.03	0.2	3.3	0.01	0.3

VINEYARD AND WINERY WASTE

Solid waste

Solid waste produced from the viticulture industry comes from the processing of grapes during vintage as well as from general vineyard operation. For example, posts, irrigation piping and bird protection netting in particular, are replaced at times and a lot of spray containers are also used. During processing, waste is produced with grape marc, filter media, cardboard, glass and plastics needing to be disposed of.

In 2008 during the waste analysis survey carried out in April, it was found that vineyard wastes, by weight, accounted for 38% of the total waste stream. Of this, the diatomaceous earth (used to filter the fresh grape pressings), accounted for 34.5% of the total waste stream, 90.5% of the vineyard wastes or 65% of the rubble classification.

Over the 6 day survey period in April 2007 the amount of used filter material disposed of to landfill was 24.4% of the total amount of waste. The results of the waste analysis survey studies for the past two years has indeed highlighted the increasing amounts of winery wastes being disposed of to the landfill at that time of year.

Not all vineyard and winery waste ends up in the regional landfill. Prunings are usually disposed of within vineyards

through mulching and composting and spray containers are now able to be disposed of through the agrichemical container recovery programme. Posts are being re-used by individual wineries as posts for other farming activity or used in garden landscaping. However, with increasing volumes of posts, a more structured way to distribute them for reuse will be required. Glass is now able to be recycled into roading materials.

Plastics (irrigation pipe, netting, wrap, and vine guards) recycling for the wine industry does remain a problem. Much of the plastic is of poor quality or mixed, making recycling difficult. Irrigation pipe for example is made up of two separate plastics, the pipe and the dripper fittings. The two plastics together are incompatible for recycling, but if separated and compacted, they have value if recycled.

Some composting of marc is undertaken within vineyards and some is used by farmers for stock feed, but there are still very large quantities being disposed of by other means or spread directly to land. The volume of marc being taken to the regional landfill has increased significantly over the last two years. In response to this there are investigations underway towards establishing a large scale composting system.



VINEYARD AND WINERY WASTE *continued*

Liquid waste (tradewaste)

In rural areas, wastewater from wineries is irrigated onto land (see the 'Land' chapter), while in industrial areas, such as at the Riverlands Industrial Estate, wastewater is discharged into the Council's reticulated sewerage system. This waste disposed of through the Council's system is referred to as tradewaste.

The Council has worked closely with developers and tradewaste producers in planning and constructing increased capacity at the Blenheim Sewage Treatment Plant, catering for growth in the Riverlands and Cloudy Bay Industrial Estates. This has meant the Council's infrastructure has been able to match the projected levels of tradewaste produced, particularly from the wine industry. The increased capacity has come from:

- The purchase of the effluent treatment facility servicing the former Primary Producers Cooperative Society freezing work.
- The construction of a second pipeline and pump stations to service Canterbury Meat Packers and the Riverlands Industrial area.
- Ongoing industrial pond upgrades to cope with the very high organic effluent loadings that food and wine processing industries produce.

Despite the increased capacity, the vintage of 2006 did cause major difficulties for the Council because a combination of greater than forecast winery output, climatic conditions and upgrade delays led to odour problems. The odour problems weren't experienced in 2007 as the upgrading work had been completed along with some changes in management practices.

The Council considered that with the upgrades completed and management practices changed, that the liquid waste produced from the 2008 vintage would be well managed. However, 2008 saw a record grape harvest well in excess of previously forecast processing volumes. With the greatly increased plantings coming on stream, grape yields were reportedly 30% higher than in 2007. There was a large increase in the output from wineries in the Riverlands/Cloudy Bay Industrial Estates with wineries working to maximum capacity to process grapes.

91,000 tonnes of grapes were crushed in the Riverlands/Cloudy Bay Industrial Estates, which resulted in loadings exceeding the Council's effluent treatment design capacity by a significant amount. Fortunately climatic conditions and management of the industrial treatment facility meant the discharge met resource consent conditions with no odour issues. However, a subsequent review of treatment performance identified that the dissolved oxygen levels (providing treatment capability) in two industrial ponds were close to zero across a significant proportion of vintage. The ponds were very close to failing.

Winery Waste type	April 2007 (over 6 days) (by weight in kgs)	April 2008 (over 6 days) (by weight in kgs)
Cardboard and paper (includes cardboard boxes)	2,290	1,372
Plastics (irrigation, netting, vine guards, shop and winery)	3,220	5,040
Sludge tank wastes	21,370	23,055
Grape marc	4,880	44,885
Glass (bottles)	1,820	2,352
Used filter materials (perlite and diatomaceous earths)	363,000	611,615
Timber (treated timber consisting of off cuts from building, broken posts and untreated timber from building alterations and pallets)	2,810	1,172

The Council directly controls the discharge of contaminants, including hazardous wastes, into the environment through the Resource Management Act. Existing rules within the Council's two resource management plans specify that hazardous wastes can only be disposed of into an approved hazardous waste landfill. At this stage, the only such approved landfill is Marlborough's regional landfill. This approach avoids the creation of further contaminated sites.

To help to remove the legacy of unnecessary, and in some cases unsafe, storage of unwanted or old agrichemicals on rural properties, the Ministry for the Environment has co-ordinated a national collection programme since 2003. Some of these chemicals may have been stored in leaking, damaged or unlabelled containers. Some may have lost their effectiveness, or have been banned from use.

Since 2003 more than 378 tonnes of agrichemicals have been collected and removed from New Zealand's rural areas. In Marlborough, 30 tonnes of agrichemicals were collected and appropriately disposed of from 2004 to 2006. In some cases the chemicals collected have been deemed 'intractable' in terms of being able to be disposed of appropriately in New Zealand and have had to be sent offshore for destruction. This programme of collecting agrichemical waste will end in June 2009.

The Ministry for the Environment has also produced a set of guidelines for the management of hazardous waste. The guidelines establish best practice for the handlers of hazardous waste (i.e., generators, transporters, treatment and disposal operators) through the provision of information and practical tools.

One of these tools is landfill acceptance criteria. These criteria set acceptable concentration limits for different hazardous wastes and also prohibit the landfilling of certain hazardous wastes. The Council uses these (and other) criteria to determine what hazardous wastes should be and should not be accepted for disposal at the regional landfill. Where hazardous wastes are not accepted for disposal at the regional landfill these are assessed before being sent off to be appropriately disposed of.

Hazardous waste passes through Marlborough on trucks and trains using the main route both north and south. Knowing the types and volumes of hazardous waste that pass through the district could help if there is a need to respond in emergency situations (e.g. road or rail accidents).

Managing waste in remote areas

Providing the opportunity to recycle, or providing a collection and disposal service for residual waste to those who live in remoter locations is very challenging, due to the cost and practicality of providing these services. The Marlborough Sounds is the obvious example, as people live and holiday in fairly remote areas, including areas with no road access.

The Council receives many complaints each year about illegal dumping in the Marlborough Sounds, particularly on the roadside. This tends to indicate that, even though 24 hour coin operated skips are provided at strategic locations in the Sounds, the distance still discourages people from bringing waste out of remote locations. Illegal dumping has significant implications as it creates a public health hazard, can result in the contamination of land and water resources, creates the potential for the spread of plant pests from green waste and is unsightly in areas that are usually visually appealing.

At the same time, there are also residents who want to manage their waste in a responsible manner, but find it difficult to do so. A community initiative in the Bay of Many Coves attempting to overcome the difficulties created by isolation, saw a one-off operation to collect items of inorganic waste accumulated over time (e.g. old fridges and ovens) and these were barged back to Picton. The collected waste was then transported to the regional landfill by the Council. This model of both parties sharing responsibility for, and cost of, waste management services might serve as a model for the future of waste management in remote areas.

Illegal dumping of waste

The past two years has seen a steady increase in the amount of litter and rubbish being discarded alongside rivers, roads and in reserves, parks and streets. The litter mainly consists of takeaway food bags/containers and drink bottles and cans, while the illegal dumping of rubbish normally consists of household and garage rubbish. An increasing amount of pig carcasses and offal dumped on river reserves has also been evident with the Council having the task of removing them. This unlawful practice has increased 50% over the past few years.

Statistics also show that illegal dumping of rubbish has increased from 119 instances for the year ending June 2006, up to 188 for the year ending June 2008 - an increase of 58%. Over the same period, Litter Infringement Notices issued increased from 60 to 68 - an increase of 14%.



No statistics are kept for littering, but there is little doubt this has also increased. The Council's Reserves Rangers have noticed a large increase in the amount of litter being deposited in public places, particularly on river reserves, and on parks and reserves in and around Blenheim. The main offenders appear to be in the under 25 year-old group, which is a highly mobile group with easy access to motor vehicles, bringing even the most distant reserve within easy reach.

Contractors, the Council's staff and the Community Corrections Department are all involved in the early removal of litter and illegally dumped rubbish. All illegal dumpings are examined in an attempt to identify those responsible. Litter Infringement Notices are usually issued except in the most minor cases where warnings/education are amongst options considered.

Media coverage has been given to all these issues to try and heighten public awareness of a growing problem. Members of the public are also encouraged to report incidents where they witness littering or the illegal dumping of rubbish. School education programmes are also in place in an endeavour to educate the younger generations that littering and the illegal dumping of rubbish is an unacceptable practice.

RESPONDING TO WASTE ISSUES

Successful waste minimisation relies on households, businesses and industries all actively taking part in community efforts to reduce the amount of waste produced in the first place and then, in terms of the waste that is produced, reusing and recycling as much of that as possible.

The first step is to make sure that there are really good systems put in place for people to be able to reduce, reuse and recycle.

In fact, there may be a number of different systems required for different groups within the community. There are many options that can be used, from drop - off recycling centres to extensive kerbside collection systems.

The second step in being able to reduce waste is knowing what can be reduced, reused and recycled. It is really important to have good quality information that is easy to understand and that tells us what items can be reduced, reused and recycled and how we do this. Education on waste minimisation is important for all sectors of the community. These sectors include schools, communities, businesses and industry.

The Council also supports the implementation of several national programmes at a local level aimed at encouraging more environmentally sound living practices through, amongst other things, waste minimisation. These include the "Enviro-Schools" programme, aimed at changing attitudes and behaviour in school children, and the "Sustainable Living" programme, which seeks to provide information and materials to encourage more sustainable practices in households.

More on a range of these initiatives currently underway in Marlborough can be found in the rest of this chapter.

Marlborough Waste Management Strategy

Partly in response to the New Zealand Waste Strategy, the Council established a Waste Advisory Group in 2002 to help establish priorities for local action. Consisting of members of professional and community groups, the group has established the following priorities:

- The collection and disposal of waste in the Marlborough Sounds.

WASTES PROHIBITED FROM BEING DISPOSED OF IN LANDFILLS

There are a number of wastes that can adversely affect the operation of a landfill site because of their inherent nature or characteristics. These wastes are prohibited from landfill disposal and include:

- Bulk liquids (bulk liquids are not suitable for disposal to any class of landfill because they increase the volume of leachate generated and requiring treatment and/or disposal; can result in increased odour nuisance; and can reduce the stability of the refuse mass under certain conditions).
- Most radioactive wastes.
- Lead acid batteries (lead acid batteries can be recycled in New Zealand).
- Used oil.
- Explosive, flammable, oxidising or corrosive substances - as defined under the Hazardous Substances and New Organisms Act.
- Refrigerators or freezers, unless they have been degassed.
- PCB wastes.

- The collection and disposal of organic waste.
- Continued and improved access to recycling facilities.

The Council subsequently developed a Waste Strategy for Marlborough in 2005. This builds on the direction provided by the New Zealand Waste Strategy by applying it to Marlborough's waste situation. As a result, the Waste Strategy for Marlborough replicates existing national targets, but also establishes local targets. Possibly the most significant outcome is that the Council has committed to working towards an objective of zero waste in Marlborough. The goals of the Marlborough strategy are:

- To ensure that solid waste management practices, to the greatest practicable extent, minimise adverse environmental, cultural, social and economic effects.
- To minimise the generation of waste, including the hazardous waste and toxic components in the waste stream.
- To manage the residual waste stream effectively and efficiently to minimise adverse environmental, social, cultural and economic effects.

The principles for achieving these goals are to reduce, reuse, recycle and recover waste and to then ensure there is the ability for residual disposal. There will need to be a review of the Waste Strategy for Marlborough in response to the outcomes of the Waste Minimisation Act.

Recycling in Marlborough

Recycling at Marlborough's transfer stations

Marlborough has a network of seven transfer stations: they are located at Blenheim, Picton, Havelock, Wairau Valley, Seddon, Rai Valley and Ward. All, except Ward Transfer Station, are staffed and open to the public for a minimum of two half days per week. The opportunity to provide recyclable materials collection facilities was realised in mid 2006 with Picton being the first to be set up. Facilities at the other stations (except Ward) were set up in late 2006. The range of recyclables able to be dropped off at each of the stations varies because of the specific infrastructure constraints at each site. Most stations do not have forklifts so alternative ways have to be found to lift collections of heavier recyclables such as newspaper or cardboard. For example, newspaper collection bins are placed on trailers so that the heavy bins do not need to be lifted.

At Picton the opportunity to use a neighbouring company's forklift means corrugated cardboard is able to be collected there. Steel mesh cages with a capacity of 16 cubic metres are

used and on average two of these are filled per week. The other recyclable materials accepted for recycling at Picton Transfer Station are plastic milk bottles, plastic PET bottles, aluminium cans, newspaper and glass. Records of quantities of materials recycled are being kept and after six months of operation, about 11% of Picton's refuse was being diverted from the regional landfill.

All the above listed recyclable materials except corrugated cardboard are also accepted at Havelock, Seddon, Wairau Valley and Rai Valley Transfer Stations.

Behind the Blue Door

The Council operated a recycling centre drop-off facility behind the Blue Door operation in Charles Street, Blenheim from May 2005 through until late 2008. (The Blue Door Trust operates a centre where reusable items can be dropped off and purchased at reasonable prices. Any profit made from this operation is donated to a variety of community groups.) While the recycling centre was centrally located and linked to a well managed existing 're-use' facility, there was inadequate parking for customers and operational space was also limited. The centre was relocated to the Resource Recovery Centre next door to the transfer station in late 2008.

Prior to being relocated, customers could drop off recyclable materials ranging from shredded office paper to steel cans. The one major recyclable which couldn't be dropped off because of a lack of space, was glass, which had to be taken to one of the transfer stations for recycling. Considering the difficulties faced by customers, the number of people that used the facility and correspondingly the amounts of materials collected increased significantly over the life of the centre.

Figure 2.2 shows the average number of customers per day over the last three years that dropped off recyclable material. Figures 2.3 and 2.4 show respectively the amounts of small and large volume recyclables collected at the Centre over the past three years. Of note in Figure 2.3 is the decrease in quantities of supermarket bags being recycled. This could potentially be because of promotions about re-useable bags.



FIGURE 2.2: AVERAGE NUMBER OF CUSTOMERS PER DAY



FIGURE 2.3: AMOUNTS OF SMALLER VOLUME RECYCLABLES COLLECTED

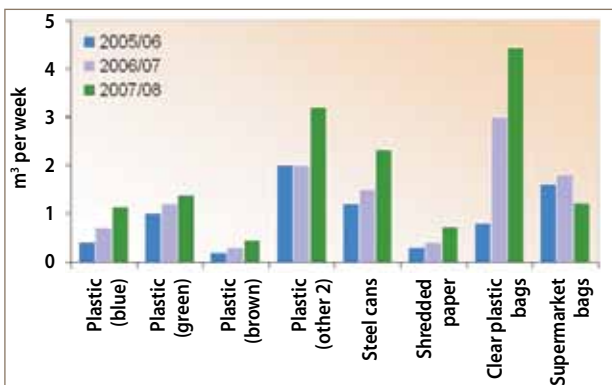
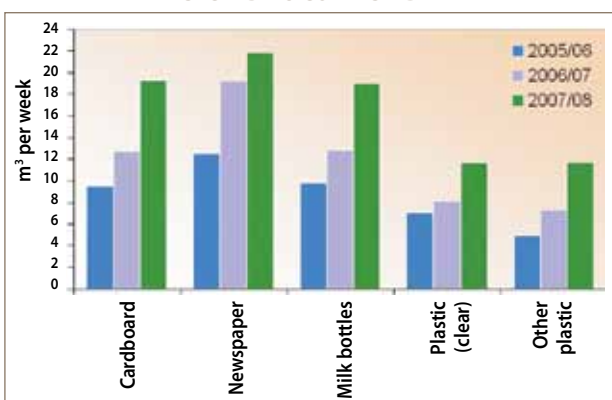


FIGURE 2.4: AMOUNTS OF LARGER VOLUME RECYCLABLES COLLECTED



Glass bottle recycling

Over the past decade it has become increasingly difficult for areas outside Auckland to have their glass bottles recycled. This is because the glass recycling factory in Auckland, which for many years converted crushed waste glass into glass bottles, has been finding it harder to compete with companies importing whole bottles. To supply its markets for recycled glass bottles, the glass

recycling factory is able to source all of its raw material needs from within the Auckland area alone. This has made the selling of waste glass from the South Island economically non-viable.

A Marlborough contracting firm, Fulton Hogan, took the lead in 2006 by suggesting that locally generated glass could be crushed and used in roading basecourse material. Supported by the Council, Fulton Hogan initiated a trial and after six months, it was concluded that crushed glass could successfully be used in roading material (after a number of Transit New Zealand technical parameters for roading were satisfied). Since the middle of 2007 all glass collected at the transfer stations for recycling has been delivered to Fulton Hogan crushing plant at Renwick for processing.

This new use of waste glass means that recyclers no longer have to sort their bottles by colour, which allows for larger collection containers. In turn this has meant less transportation cost. With savings from this the Council has been able to set up skips for glass bottle collection at the three transfer stations that did not previously have a glass recycling option: Rai Valley; Wairau Valley; and Seddon.

Recycling empty chemical containers

At the beginning of 2007, the Blenheim Transfer Station became one of New Zealand’s 43 drop-off sites for empty chemical containers. This is through the “Agrecovery” scheme, a private sector initiative, which is an example of an “Extended Producer Responsibility” scheme. This is where the purchaser of the product pays a levy as part of the product price. This is then used to cover the cost of recycling the containers once they are no longer needed. In effect this means that the empty containers of participating brands can be dropped off at any Agrecovery drop-off sites at no charge. Approximately 80% of chemical sales companies in New Zealand are part of this scheme. Containers from companies which are not part of this scheme attract a disposal charge, which acts as an incentive for buyers to switch to participating brands.

In Marlborough a large number of mostly 20 litre chemical containers have already been handled through this scheme. Many of these containers would previously have been burned or buried or disposed of in the regional landfill. The benefits of the scheme are that in being a coordinated, nationwide scheme, there will be economies of scale and logistics efficiencies that can’t be achieved by alternative approaches such as individual local government or industry collection and recycling initiatives.

Some preparation for recycling of the containers is expected: for example they must be triple rinsed so as to remove all chemical residues; the lids must be off; and the product label must be intact. Containers are collected until there is a load large enough to warrant a visit by the Agrecovery truck. This vehicle is equipped with an inbuilt plastic shredder so the initial processing of the containers is carried out on site. This saves significantly in transportation costs. The shredded plastic is then sold to plastic re-manufacturing companies and made into products such as buckets and slip sheeting.

Sustainable living programme

The Sustainable Living programme grew from the Sustainable Households programme that the Council piloted and then managed nationally for 5 years. The aim of the programme is to help householders to reduce their impact on the environment in a fun and informative way. The focus is on practical tips and techniques to reduce our environmental footprint, through things such as house insulation, shopping choices to reduce waste, lower-carbon transport, and alternatives to toxic cleaning chemicals, as well as practical composting techniques.

The Sustainable Living programme has 26 subscribing councils and received \$100,000 from the Ministry for the Environment in the 2007/2008 year to grow the programme and develop and implement an evaluation programme to measure the changes households were making to become more sustainable. A Charitable Trust has now been developed to take over the management of the programme nationally from October, 2008.

The Sustainable Living programme has grown significantly in Marlborough over the last few years. Regular seminars are run on a number of the Sustainable Living topics with the most popular ones being sustainable shopping, waste wise, composting and organic gardening. (Booklets on a range of sustainable living topics are available on the Council's website or at www.sustainableliving.org.nz.)

Nationally nearly 2000 New Zealanders took part in a course with the Sustainable Living Programme in 2007. In 2006, over 300 people in Marlborough alone attended a variety of these programmes and in 2007 that number grew to over 400. Most of the seminars have been run in Blenheim but now through a partnership programme with the Rural Education Activities Programme, courses and seminars will be offered in many more

Picton transfer station and recycling depot





areas of Marlborough. The programme also has a ripple effect, those who attend the programme share the information and actions they have taken with friends and family, so that the message spreads far and wide.

As a consequence of going through the programme, a range of behaviour changes has been reported by those taking part. These changes have included:

- Electricity savings through a higher proportion of cold water clothes washes and turning off power to appliances when unused.
- Larger proportion of items recycled than previously.
- Investing in energy efficiency areas such as using compact fluorescent bulbs, replacing appliances with more energy efficient ones, insulation in ceilings, installing a ceiling fan to bring warm air down, using a heat pump and a gas hot water system.
- Starting or improving kitchen waste/prunings composting (or using worm-bins).
- Avoiding plastic carrier bags when shopping and avoiding or reusing plastic containers.
- Avoiding 'over-packaged' products.
- Reading and understanding more of what is on the labels on products.
- Achieving water efficiencies in the house and garden.
- Renewed interest in home-grown and in New Zealand-produced food (especially organics).

Enviroschools

The Enviroschools Programme delivers both environmental and education benefits. Its aim is to support the creation of sustainable schools where the school grounds, operation, management and curriculum are all parts of the sustainability process. This is done through six key theme areas, Me and My Environment, Zero Waste, Healthy Water, Living Landscapes, Precious Energy and Ecological Buildings. The Enviroschools programme works on action learning where students get to experience the environment and make a positive difference to it from creating organic edible gardens, to adopting a stream and monitoring and improving its health, to establishing a native forest area.

The Enviroschools programme was trialled in Marlborough in 2005. Now it is the Council's main education programme for schools. (Nationally there are over 500 schools in the Enviroschools programme.) Currently there are 12 Enviroschools in Marlborough, all at different stages but are all achieving some amazing outcomes. These include Witherlea, Springlands, Fairhall, Renwick, Canvastown, Linkwater, Riverlands, Redwoodtown, Waitaria Bay, Rai Valley Area School and Marlborough Boys and Girls Colleges. With three other schools joining the programme later in 2008, this represents almost half of all schools in Marlborough.

Worm farming

