blue mountains City Council

Strategic Waste Action Plan

Background Paper

April, 2005

TABLE OF CONTENTS

1 PURPOSE OF THIS PAPER 1

2 CONTEXT FOR STRATEGIC WASTE ACTION PLAN 2

2.1 Council's Framework for Sustainable Waste Management 3
2.1.1 Towards a More Sustainable Blue Mountains – A 25 Year Vision for the City 3
2.1.2 Towards a More Sustainable Blue Mountains – A Map for Action 2000 – 2025 3
2.1.3 Total Waste Management Strategy 2002 – Waste & Support Services 4
2.1.4 Options for Long-Term Waste and Resource Management Solutions 2003 5
2.2 Blue Mountains City Council Management Plan 2004 – 2005 & TBL reporting 6
2.3 Triple Bottom Line Reporting

3 CURRENT WASTE MANAGEMENT SERVICES AND PROGRAMS 7

3.1 Current Services and Waste Profile 7
3.1.1 Residual Waste Disposal 7
3.1.2 Recycling Services 10
3.1.3 Household Organics Chipping Service 12
3.1.4 Household Hazardous Chemical Collection 13
3.1.5 Cleanfill 14
3.1.6 Effluent Collection, Treatment and Disposal 14
3.1.7 Historical Waste Summary 14
3.2 Potential Future Waste Diversion 17
3.3 Waste Management Infrastructure 19
3.4 Waste Management Resources 19
3.4.1 Staff Resources 19
3.4.2 Funding Resources 20

4 STATE AND REGIONAL TRENDS 21

4.1 Waste Disposal in New South Wales 21
4.2 NSW Waste Legislation, Regulation and Policies 22

5 SUSTAINABILITY AND WASTE MANAGEMENT EDUCATION 24

5.1 BMCC Waste Education Initiatives 24
5.1.1 Information-based education 24
5.1.2 Action-based Education 25

6 REFERENCES 27

Appendix A: NSW Waste Related Legislation and Policies

GLOSSARY OF TERMS

AWT	Alternative Waste Treatment - processing of waste to recover resources and/or reduce its environmental impact.
Cleanfill	Clay, gravel, sand and soil that is not mixed with any waste or organic material and has been excavated from areas that are not contaminated with manufactured chemicals. This material is sometimes referred to as virgin excavated natural material or 'VENM'.
Commingled Containers	Mixed food and beverage containers, usually plastic.
Drivers	Considerations such as legislation, regulations, policies and other influencing factors.
LGA	Local Government Area
MGB	Mobile Garbage Bin
Putrescible Waste	Waste containing readily degradable matter such as food or animal matter, including dead animals or animal parts, or unstable or untreated biosolids.
Recovery Rate	Proportion of material recovered from the total waste stream.
Stakeholders	Individuals or groups with a key involvement and other interested parties.
Waste Audit	Exercise of determining the quantity and composition of waste which is disposed.
WMF	Waste Management Facility

1 PURPOSE OF THIS PAPER

Throughout 2001 and 2002, extensive community consultation was conducted to develop the 25-year vision for the City. As a result, Blue Mountains City Council has recognised the need to develop a Strategic Waste Action Plan as part of its ongoing provision of waste management services. This action plan is intended to guide the medium to long term management of waste in the Blue Mountains area, and may include improving existing services and/or introducing new, sustainable services.

To develop the Action Plan, Council wishes to fully inform key stakeholders, including residents, local businesses, and community groups, of the current waste situation in the Blue Mountains and gain feedback on stakeholders' views on how to move forward.

The 25 Year Vision and Map for Action provide a strong indication of community values in five key directions in the areas of the environment, community, land use, transport and commerce / education. Of particular relevance in relation to waste management, is the community's identification of living a low consumption and sustainable lifestyle as being important to our future. Council is now seeking specific feedback from the community on how this is to be achieved in managing the waste and resources we produce.

This background paper is intended to provide introductory information about:

- General trends in waste generation and management in the Blue Mountains area and NSW;
- Issues that affect services in the Blue Mountains: and
- Key drivers shaping the ongoing management of waste.

2 CONTEXT FOR STRATEGIC WASTE ACTION PLAN

Blue Mountains City covers an area of 1,433 square kilometres, lying within the World Heritage listed Greater Blue Mountains Area. As at July 2001, the population recorded by the Australian Bureau of Statistics was 74,317 people living in some 27,750 households, a growth of 7% since 1991. Based upon population trends, the permanent population in 2005 is now estimated to be around 78,000 people living in 29,100 households with an average of about 2.7 people in each household. A graph of population growth in the Blue Mountains is given as Figure 2-1

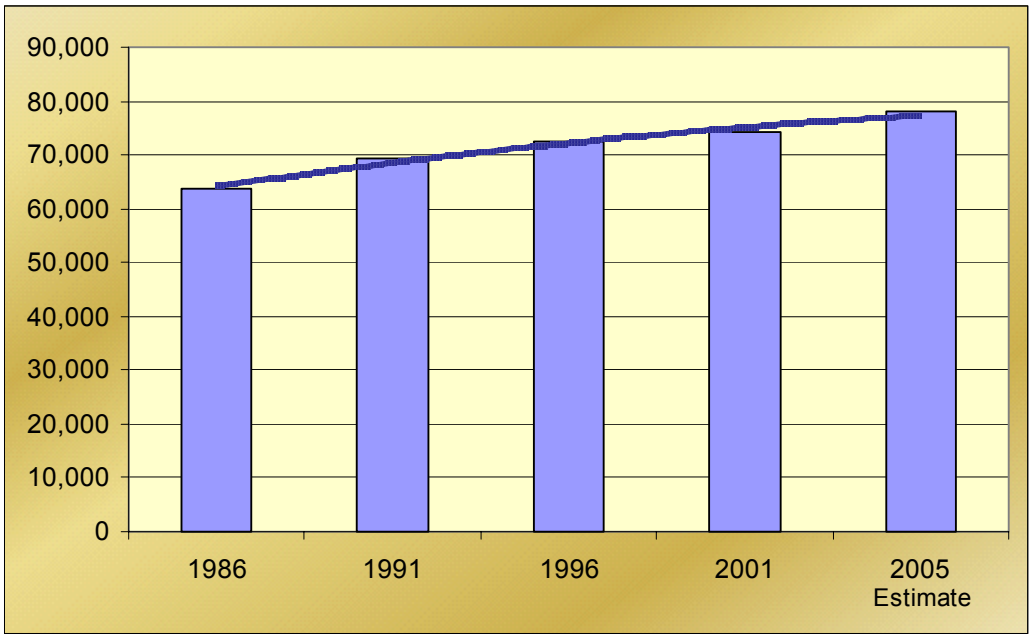

Figure 2-1: Blue Mountains Population Growth

Geographically, the Local Government Area (LGA) stretches 90 km along the Great Western Highway between Lapstone and Mt Victoria, and along the Bells Line of Road from Bell to Mt Wilson, Mt Tomah and Mt Irvine. As a result, the Council area is diverse, displaying some regional and metropolitan characteristics, including a medium level population density and relative proximity to Sydney.

Within the LGA, there are 27 townships. Due to the topography of the region, the Council area "runs along a line", with townships extending off the main highway. This creates a unique waste transportation situation, resulting in significant travel distances from one township to the next. This leads to increased collection and transportation costs for such services as domestic garbage disposal.

2.1 Council's Framework for Sustainable Waste Management

In order to guide its progression towards the provision of more sustainable waste management services to the community, Council has developed a comprehensive framework which includes the following documents:

- *Towards a More Sustainable Blue Mountains – A 25 Year Vision for the City; and*
- *Towards a More Sustainable Blue Mountains – A Map for Action 2000 – 2025*
- *Total Waste Management Strategy 2002 – Waste & Support Services;*
- *Options for Long-Term Waste and Resource Management Solutions 2003;*

2.1.1 Towards a More Sustainable Blue Mountains – A 25 Year Vision for the City

Providing overarching guidance is the 25 Year Vision for the City. This document describes the community-endorsed vision for the Blue Mountains, in 5 Key Directions of environment, community, land use, transport and working & learning.

In moving towards a more sustainable future, the actions which are developed must:

- Be environmentally responsible;
- use resources efficiently, wisely and effectively;
- contribute to the creation of liveable vibrant, creative communities with a sense of place and belonging; and
- are fair and equitable to others including future generations.

Ultimately, the aim of the Vision is to improve the quality of life and make the Blue Mountains a better place.

2.1.2 Towards a More Sustainable Blue Mountains – A Map for Action 2000 – 2025

Supporting the 25 Year Vision is the Map for Action 2000 – 2025. This document sets a course for action to shape the City over the next 25 years and is offered to Blue Mountains residents and local organisations, Government agencies and Council as a guide for achieving the results that will lead to a more sustainable City in a World Heritage Environment. Under each of the 5 Key Directions outlined in the Vision, is a series of outcomes and Priority Action Areas.

Most notable is Strategic Objective 1.3.1. – "levels of household waste are reduced and low consumption environmentally aware lifestyles are encouraged" which comes under Key Direction 1 – Looking After the Environment. The corresponding priority action area over the next 5 – 10 years is to raise the awareness of the benefits of living more sustainability.

Under Key Direction 3 – Using Land for Living, Outcome 3.2 stipulates the requirement of well managed infrastructure which supports sustainable living and Outcome 3.3 looks to strengthen the liveability and vibrancy of our towns and villages.

Finally, under Key Direction 5 – Working and Learning, Sustainable Business Practices are Encouraged as Strategic Objective 5.2.2. This translates to the priority action of promoting the benefits of accreditation in sustainable business practices.

In terms of monitoring the Blue Mountains' progress towards a more sustainable future, the Map goes on to state that "having created a Vision for the future of the Blue Mountains and having identified key milestones and priority action areas, it is important to establish in consultation with all stakeholders a means of monitoring and checking progress".

More information is available at www.ourfuturebluemtns.nsw.gov.au

2.1.3 Total Waste Management Strategy 2002 – Waste & Support Services

In 1995, Council developed the Total Waste Management Strategy to provide a framework for the effective management of all waste generated within the City of Blue Mountains and to ensure that future generations were not disadvantaged or burdened by the actions of this generation. The Strategy was made up of a series of strategies designed to build upon, and reinforce each other to provide a totally integrated approach to the management of the City's waste streams.

This document was revised in 2002, factoring in changes to Council resources, financial constraints and changes to NSW waste legislation. The current Strategy spans the period 2002-2007. The four guiding objectives of the Strategy are:

1. Empowerment of the individual to take responsibility for their waste on site instead of a municipal (centralised) approach.

2. Ensure that there is full and effective community participation in the development, and performance, of waste management planning and programs.

3. Waste management programs will be developed in an integrated "best practice' manner with the principles of Ecologically Sustainable Development.

4. Programs will be developed in accordance with State and Commonwealth guidelines with reference to the resource hierarchy; focussing on resource management and continual reduction of waste to landfill.

In addition, there are 9 key strategic areas / categories designed to allow the measurement of trends over time. These are;

a) **Waste Stream Analysis** – actions to determine the physical characteristics of various waste streams;

b) **Waste Avoidance and Minimisation** – actions to help promote the minimising of waste through education and fee structures, working within the framework of supporting legislation;

c) **Resource Recovery** - actions to maximise resource recovery, such as recycling, through education and promotion as well as physical collection;

d) **Commercial Opportunities and Joint Ventures** – actions focussing on Council working with commercial operators to achieve optimal waste minimisation;

e) **Public Place Waste Management** – actions to provide public place recycling and reuse facilities along with education, and to work with key stakeholders to help increase waste minimisation;

f) **Infrastructure** – actions to ensure that waste facilities are best practice, encourage waste minimisation and comply with relevant legislation;

g) **Consultation, Participation and Education** – actions to ensure that key stakeholders such as the community are involved in waste management and also have access to knowledge to minimise their own waste (empowerment);

h) **Customer Service** – actions forming part of a quality service, ensuring that customers are satisfied with the waste services, including benchmarking and continuous improvement; and

i) **Council Best Practice** – actions that ensure Council operates within best practice principles to lead by example and fulfil sustainable objectives.

2.1.4 Options for Long-Term Waste and Resource Management Solutions 2003

In 2003, Council undertook at study into the options for long term waste and resource management solutions. This study was the result of Council's recognition of an immediate need to develop new waste management solutions for the City, given the limited lifespan of Councils existing landfills, which are used to dispose of up to 60% of all wastes generated within the City. The recommendations flowing from that report were:

1. That Council progressively pursue in the medium to long term, a sustainable resource management strategy, consistent with the intention of:
    - Developing a new landfill cell at Blaxland WMF;
    - Establishing a waste processing facility at Blaxland;
    - Building a transfer station at Katoomba WMF;
    - Direct haulage of waste from upper Mountains to Katoomba for transfer to Blaxland WMF; and
    - Direct haulage of waste from lower Mountains to new facility at Blaxland.
2. That the first stage of the strategy be to immediately pursue the establishment of the new landfill cell at Blaxland including the preparation of an Environmental Impact Statement and obtaining of statutory approvals;
3. That Council test the market response to the provision of a landfill cell at Blaxland and a waste transfer station at Katoomba;
4. Concurrent with Recommendation 3, that Council test the market response to the provision of sustainable resource recovery solutions to minimise the quantity of waste going to landfill;
5. That a report come back to Council on the financial strategy to deliver the new landfill cell and the outcomes of the market response to the provision of sustainable resource management; and
6. That Council formally engage with NetWaste in order to take advantage of any regional initiatives.

2.2 Blue Mountains City Council Management Plan 2004 – 2005

The Management Plan represents Councils initial response to the community endorsed vision for a more sustainable Blue Mountains. While the Map for Action offers a framework for all stakeholders to take action, Council has acknowledged its role as leader, steward and advocate on behalf of Blue Mountains People.

The Management Plan sets the direction and framework for resource allocation and action by Council over the next four years. The pilot performance targets which have been put forward in relation to waste management include:

Looking After the Environment - Total annual waste disposal levels are decreased between 2004 – 2008;

Using Land for Living - Available capacity of landfill infrastructure in increased from 4 years in 2004 to 11 years in 2008; and

Working and Learning - Three hundred businesses achieve accreditation in sustainable business practices by 2008.

The objectives and milestones related to waste management are given in Table 2-1.

Table 2-1: Management Plan Waste Related Objectives and Milestones

Key Direction	2004 – 2008 Waste Objective	2004 – 2005 Milestones
Looking After the Environment	To reduce the amount of waste going to landfill through education, resource recovery and recycling initiatives	• Complete Stage 2 of Blaxland Waste Management Facility Leachate work • Complete Resource Recovery Centre Feasibility Study
Using Land for Living	To extend the life of Blaxland Waste Management Facility	• Commence extension of Blaxland Waste Management Facility • Complete Stage One of Katoomba Waste Transfer Station : Environmental Impact Statement
Working and Learning	To promote the benefits of accreditation in sustainable business practices	• Review the effectiveness of the sustainable Business Accreditation Scheme (Blue Mountains Business Advantage)

2.3 Triple Bottom Line Reporting

In aiming towards sustainability, economic, social and environmental impacts of actions or initiatives need to be considered. As a result, Council has developed a Sustainability Evaluation Tool to ensure that consideration is given to each of these areas, thereby enabling Council to prioritise projects that are sustainable to the organisation and the community. This is also referred to as Triple Bottom Line Reporting.

3 CURRENT WASTE MANAGEMENT SERVICES AND PROGRAMS

3.1 Current Services and Waste Profile

Currently, Council offers the following waste management services to residents within the LGA:

- Residual Waste Disposal;
  - Commercial / Industrial Waste;
  - Building and Demolition Waste;
  - Household Domestic Waste (weekly collection, annual clean up and booked monthly clean up);
- Recycling Services;
  - Household kerbside collection
  - Free drop off at Waste Management Facilities
  - Free drop off stations at five townships
  - Building and Demolition Waste Reprocessing
  - Garden Organics Composting (trial)
- Household Kerbside Chipping Service;
- Household Hazardous Chemical Collections;
- Cleanfill Acceptance; and
- Effluent Treatment and Disposal.

Details of each of these services is given below.

3.1.1 Residual Waste Disposal

a) Commercial / Industrial Waste

Businesses in the area must organise their own waste collection and disposal through a private waste contractor. Some 13,500 tonnes of commercial and industrial waste are disposed of to Council's two landfills each year. Based upon landfill records, the quantity of commercial and industrial waste has risen by around 6.5% per year over the last 5 years.

Information on the composition of this waste has never been collected. Commercial and industrial businesses in the LGA include the tourism and hospitality industry, retail, real estate and other shops, schools, etc. It is likely that there is potential to recover resources from the waste of these properties.

b) Building and Demolition Waste

Historically, building and demolition waste has accounted for some 11,200 tonnes of waste disposed of at the City's landfills each year. This material is generated through such activities as housing and commercial developments, renovations, civil engineering works and other building activity in the area. Over the past five years, this quantity of building and demolition waste has fallen by around 2.8% per year.

This material has previously been stockpiled and used beneficially on site for hardstand areas and internal roads. On occasion this material has been crushed before being used on site.

Since July 2003, some of this type of material has been processed at the Resource Recovery operations at Council's Springwood depot

c) Household Domestic Waste

Blue Mountains City Council provides a weekly household waste collection and disposal service to its 29,100 households. Residents are supplied with a 240 litre mobile garbage bin (MGB) from which domestic waste (i.e. household garbage) is collected by Council employees. To deliver this service, Council utilises day labour and a collection fleet of seven side-loading vehicles, operating from a single depot located at Katoomba. This results in the disposal of approximately 23,500 tonnes of household garbage each year or around 810 kg per household per year. Half of this garbage is directed to the Katoomba Waste Management Facility (WMF) and the other half to the Blaxland WMF, which each have a landfill.

Council's annual Community Surveys consistently rate the garbage collection as 'very high' in importance. Waste Management services as a whole are considered to have the highest importance of all Council activities. Community satisfaction with the garbage collection service has been very high for the past three years and has increased significantly since 2000.

In July 2005, residents will be offered the option of swapping to a mini bin (140 litre MGB). As an incentive to reduce the amount of waste to disposal, residents who take up this option will be given a discount on a household compost bin for food and garden organics and pay a discounted Domestic Waste Management Charge on their rates.

In 2000, a series of waste audits, were conducted by an independent consultant. These audits found that households in the Blue Mountains were generating an average of 811 kilograms of garbage per year. The most recent audits conducted in November 2003, found each household generates 780 kg of garbage per year. In 2003/04, Council's landfill data indicates each household produces 807 kg per year.

A compositional breakdown of the household garbage is given as Table 3-1, with each component grouped according to its potential recoverability. That is, of the material being disposed of as household garbage, some materials are recyclable (e.g. aluminium), while other materials have the potential to be recovered as compostable material (e.g. food waste). The remainder of the material is classified as residual waste with no potential for resource recovery (e.g. kitty litter).

From Table 3-1, up to 63.8% of the household garbage stream could be recovered through a composting type activity while a further 14.4% could be recovered as recyclables.

Table 3-1: Domestic Garbage Composition by Recoverability

Potential Recoverability	Waste Component	Proportion
Compostable 63.8%	Food Waste	21.6%
	Garden Organics	37.5%
	Contaminated Paper	4.7%
Recyclable 14.4%	Paper	7.9%
	Glass	2.9%
	Steel	1.9%
	PET	0.5%
	HDPE	0.4%
	Polypropylene	0.4%
	Liquidpaperboard	0.2%
	Aluminium	0.2%
Residual 21.8%	Dirt, Dust, Rock, Inert	3.5%
	Nappies	3.1%
	Plastic Film	3.1%
	Hazardous	3.0%
	Textiles, Clothing, Leather, Footwear	2.7%
	Kitty Litter	1.4%
	Other Plastics	1.2%
	Wood	1.0%
	Other Plastic Containers	0.6%
	Polystyrene	0.3%
	Cooking / Engine Oil	0.2%
	Other Miscellaneous	1.7%

Source: APrince (2003), Residential Waste Audit for Blue Mountains City Council

d) Bulky Waste Collection Services

Council also offers an annual clean up service to its residents. These are scheduled throughout the year for different townships, accepting general household items, other waste less than two cubic metres in volume, and secure or bagged wastes which can be lifted by two people. In addition, residents are able to book a bulky waste clean up service for a nominal fee. This waste amounts to some 600 – 1,000 tonnes per year.

3.1.2 Recycling Services

a) Kerbside Recycling

Council has provided a kerbside recycling service to its residents since 1991. Each household is provided with two 55 litre crates which are emptied on a weekly basis by Blue Mountains Recycling Centre (private contractor).

As with the garbage collection, the kerbside recycling service is consistently rated as having very high importance to the community. Community satisfaction levels with the service have been high for the past three years and have improved significantly since 2000. A list of materials collected and typical products is given in Table 3-2.

Table 3-2: Recyclable Materials and Typical Products

Material	Typical Products
Polyethylene Terephthalate (PET - Class 1 plastic)	• Soft Drink Bottles • Water Bottles
High Density Polyethylene (HDPE - Class 2 plastic)	• Opaque Milk Bottles • Juice Bottles
Polyvinylchloride (PVC – Class 3 plastic)	• Cordial bottles • Detergent Bottles • Household Cleaner Bottles
Polypropylene (PP – Class 5 plastic)	• Ice cream Containers • Butter Containers
Aluminium	• Soft Drink Cans • Beer Cans
Steel	• Tinned Food Can • Pet Food Cans • Paint Cans (empty and clean)
Glass	• Beer Bottles • Wine Bottles • Juice Bottles • Food Jars
Paper & Cardboard	• Newspaper • Magazines • Junk Mail • Office Paper • Envelopes • Corrugated Cardboard • Food Boxes • Packaging Cartons
Liquidpaperboard	• Milk Cartons • Juice Cartons

The material is initially sorted by the contractor at kerbside into one of their twelve trucks. Within the truck, glass is separated into clear, green or amber (brown), other containers commingled and paper and cardboard combined. The commingled containers are sorted at the contractor's premises into aluminium cans, steel cans and plastics. All materials are then bulked at the contractor's premises before being on-sold to reprocessors. Presently, Blue Mountains Recycling Centre is constructing an enclosed facility for the consolidating and bulking of recyclate. Table 3-3 presents kerbside recycling tonnages from 2002/03 to 2003/04.

Table 3-3: Kerbside Recycling Tonnages

Material	2002/03	2003/04
PET	142.1	163.8
HDPE	83.0	83.2
Aluminium	7.5	7.2
Steel	88.0	125.7
Glass	2,330.0	2,060.0
Paper	3,522.0	3,638.0
TOTAL	**6,172.6**	**6,077.9**

Source: Blue Mountains City Council

Overall, the quantity of recyclable materials recovered has fallen slightly (-1.5%) over the past year. This could be due to a number of factors including lower consumption, packaging changes or a number of other reasons. On average, each household produces 4 – 4.1 kilograms of recyclate per week, or 210 kg per year. An independent consultant's report stated that there is the potential to increase the amount of recycling collected by as much as 10% if all paper, cardboard and recyclable containers were recovered. Based upon another survey by Council in 2004, the number of households participating in recycling on a regular basis is about 75%. This represents a decrease of 3.4% compared with 79.1% in 2002.

b) Drop-off Recycling

In addition to regular kerbside services, recyclable materials are able to be dropped off at either of Council's two Waste Management Facilities. This material includes metals / car bodies, non-ferrous metals, paper / cardboard, and glass. In addition to annual clean-up recyclables, this material amounts to some 2,600 tonnes per annum.

c) Building and Demolition Waste Reprocessing

Since late 2003, a Resource Recovery Centre has been operating at Springwood Depot. In 2004, the Resource Recovery Centre processed some 13,500 tonnes of construction waste. This Council run facility recycles materials from building and demolition sites. Here, the facility collects, crushes and screens construction material to produce a useable recycled product from waste that would otherwise have been destined for landfill. The reprocessed material is either used internally for engineering works or sold externally to create cost savings / revenue.

Since it began operations, the Resource Recovery Centre has won a number of environmental awards including a Local Government Excellence Award and an Institute of Public works Engineering award.

d) Garden Organics Composting (trial)

In addition to reprocessing construction and demolition material, the Resource Recovery Centre at Council's Springwood depot has successfully piloted garden organics composting.

3.1.3 Household Organics Chipping Service

As with the November 2000 waste audit, the 2003 waste audit also reported significant quantities of greenwaste within the domestic waste stream (37.5%) which could potentially be diverted from landfill. In November 2001, Council introduced a kerbside chipping service for its residents. This service is provided to households twice each year in autumn and spring. Residents place their greenwaste on the kerbside, and Council contractors mulch the material, placing the processed material back on the kerbside for residents to use in their gardens. In addition, Blaxland and Katoomba WMFs receive some 10,600 tonnes per year of greenwaste, which is mulched and used on site for embankment stabilisation and landscaping projects.

The kerbside chipping service is provided by Council through the use of one internal (Council) team and two private contractors operating on a daily lump sum basis. This service accepts up to 3 cubic metres of branches up to 3 m long, with a diameter of less than 15cm. At the time of service introduction, around 8,350 cubic metres were processed from 5,642 households. By late 2004, this figure had increased to around 16,250 cubic metres from almost 10,000 households. As would be expected, the rise in participating households has been accompanied by a rise in the quantities being mulched. A review of this service is currently being completed. A graph of the number of services and quantities processed is given as Figure 3-1.

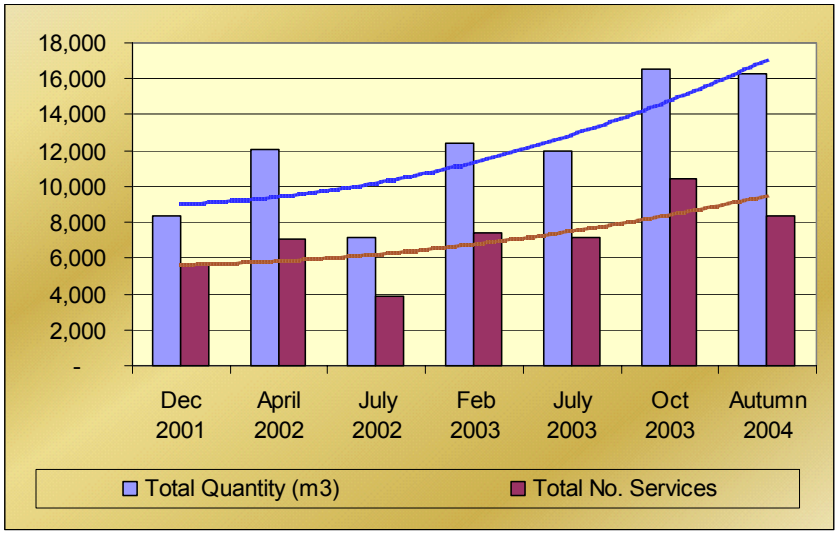

Figure 3-1: Total Quantities Mulched vs Total No. Services

When the service was introduced by Council, the household participation rate for the kerbside chipping service was around 20%, with about 1.5 m^3 of material being mulched from each household. Since that time, the participation rate has risen to between 30 – 35% and is expected to continue rising as awareness of the service increases. Notably as the service has matured the quantity of material processed has gradually risen to almost 2.0 m^3 per household.

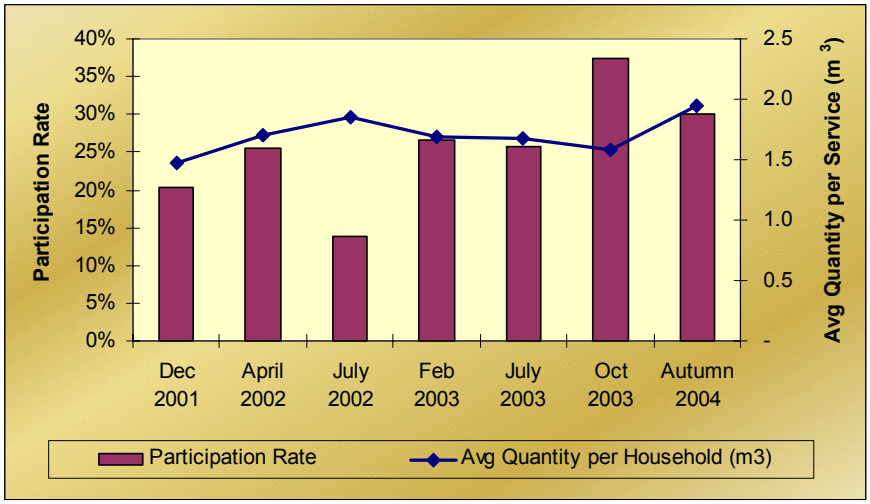

Figure 3-2: Participation Rate vs Average Quantity of Material Processed

As with the kerbside recycling service, Council has indicated that the kerbside chipping service is operating reasonably effectively. The current review is demonstrating that there is a potential to increase resident participation by increasing the quantity accepted and improving the service's reliability.

3.1.4 Household Hazardous Chemical Collection

Household hazardous wastes include paints, pesticides, herbicides, poisons, solvents, cleaning fluids, motor fluids, batteries, gas bottles, extinguishers, smoke detectors and chemicals. These can pose serious threats to human health, flora and fauna through such events as accidental exposure, spillage, leakage and other forms of uncontrolled release including explosions. As a result, these materials should not be disposed of in household garbage due the potential risks.

Council conducts a household hazardous chemical collection four times a year. Residents are able to drop off hazardous materials for disposal. These events are staggered over the four quarters alternating between Blaxland and Katoomba WMFs where residents are able to safely dispose of hazardous materials.

During 2004, 811 people used this service and 26,294 kilograms of hazardous chemicals were collected and sent for safe recovery or disposal.

3.1.5 Cleanfill

Cleanfill is clay, gravel, sand and soil that is not mixed with any waste or organic material and has been excavated from areas that are not contaminated with manufactured chemicals. This material is sometimes referred to as virgin excavated natural material or VENM. It is accepted free of charge at Council's discretion and is regarded as a valuable resource, being used for cover material at Katoomba and Blaxland WMFs.

In the past, Council has had an excess of this material with a number of significant engineering projects being carried out in the area by the Roads and Traffic Authority and Sydney Water. In addition, Council projects contribute in the order of 10,000 tonnes per year to this stream. However, as major works have been completed, the amount of cleanfill has reduced significantly, dropping to around 29,000 tonnes per year. This has resulted in Council importing minor quantities of cleanfill from regional areas for landfill activities such as covering waste, constructing roads and shaping embankments.

3.1.6 Effluent Collection and Disposal

In addition to the solid waste services detailed above, Council is contracted by Sydney Water to provide effluent collection and disposal services to the community.

3.1.7 Historical Waste Summary

Combined with commercial, greenwaste, recycling, cleanfill and other miscellaneous waste, the Blue Mountains Local Government Area generates some 100,000 tonnes of waste per year which is directed to Katoomba and Blaxland WMFs. This equates to around 1.3 tonnes of waste per person. Annual waste generation rates for the period 1998/99 to 2003/04 are given in Table 3-4.

Table 3-4: Waste Tonnages Received at Blaxland and Katoomba WMFs 1998/99 to 2003/04

Waste Component	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Domestic Garbage delivered to WMFs	2,392	4,152	5,780	4,619	3,702	2,838
Domestic Garbage (includes street and park litter bins)	23,980	25,666	25,614	25,167	24,090	23,495
Mixed Commercial / Industrial Waste	10,585	10,922	10,704	10,517	13,400	13,478
Soil Mixed with Organic Waste	5,143	8,102	6,939	6,816	8,666	6,580
Mixed Building / Demolition	12,513	13,903	11,249	9,507	12,402	11,160
Asbestos for Standard Disposal	157	162	211	174	225	267
Asbestos for Burial Disposal	18	24	13	15	7	10
Putrescible Waste	216	14	5	11	21	13
Annual Clean-up Waste	-	-	-	1,115	371	596
Small Vehicle Load <100kg	686	536	805	1,103	1,191	1,190
Small Vehicle Load 101-300kg	4,282	482	-	-	-	-
Landfilled Subtotal	**59,972**	**63,963**	**61,320**	**59,044**	**64,075**	**59,627**
Recycle / Metal / Cars	1,310	1,852	2,798	3,194	1,972	1,903
Recycle / Paper / Cardboard	71	153	301	213	162	254
Recycle / Non Ferrous	1	-	-	-	-	-
Recycle Glass	17	12	31	23	26	22
Annual Clean-up Recycling	-	-	-	778	249	368
Recycled Subtotal	**1,399**	**2,017**	**3,130**	**4,208**	**2,409**	**2,547**
Greenwaste / Light	4,260	7,618	7,116	7,695	6,928	7,324
Greenwaste / Medium	1,764	1,386	964	1,102	1,093	1,323
Greenwaste / Heavy	1,102	1,885	1,574	1,751	1,744	1,971
Storm Damage	377	11	128	3,938	333	512
Greenwaste Subtotal	**7,503**	**10,900**	**9,782**	**14,486**	**10,098**	**11,130**
Cleanfill	57,212	44,301	28,894	23,747	38,819	28,888
Annual Total All Wastes	**126,086**	**121,181**	**103,126**	**101,485**	**115,401**	**102,192**

Source: Blue Mountains City Council

From Table 3-4 the following 6 year trends may be seen:

- Despite an increasing population growth, there has been an average annual decrease of 3.2% in the total quantity of all wastes generated within the City of Blue Mountains, from 126,650 to 103,270 tonnes per year, due to significantly lower quantities of cleanfill being generated;
- Of this waste, the quantity of waste being disposed to landfill has remained constant;
- Notwithstanding the large quantity of storm damage received in 2001/02, there has been a steady increase in capture of greenwaste at the WMFs; and

- There has a sharp average annual decline of 8.8% in the amount of cleanfill that has been accepted at the WMFs over the past six years.

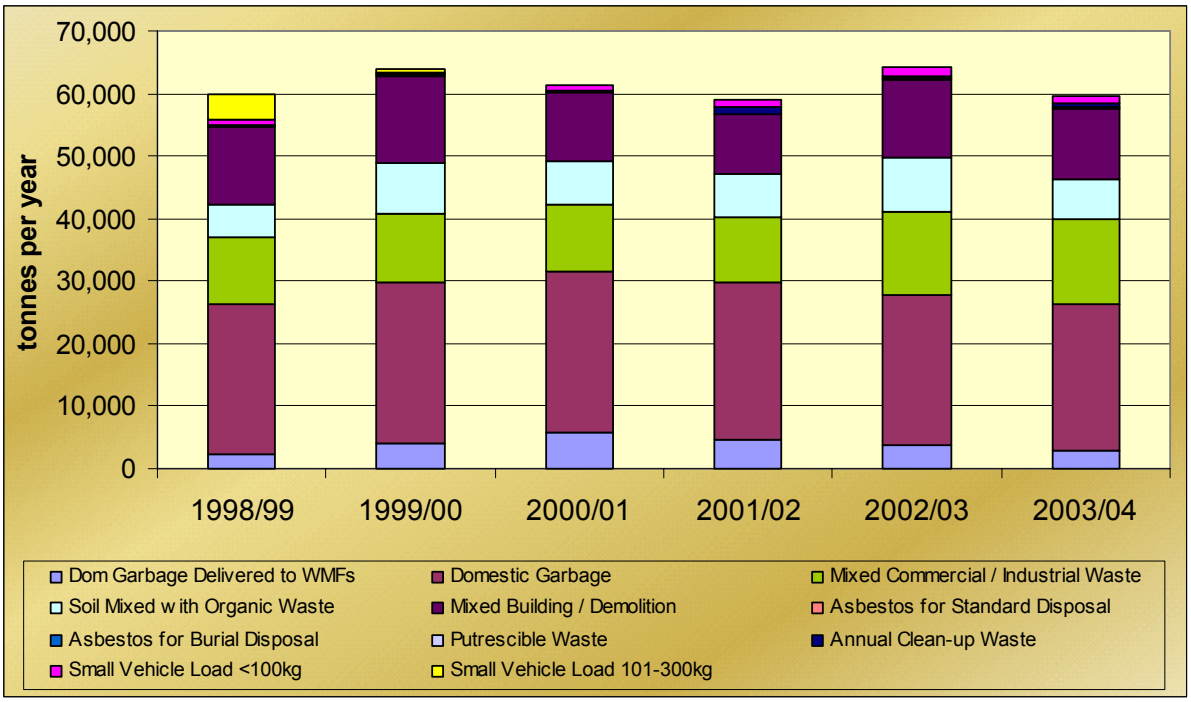

Figure 3-3: Landfilled Waste

Of the waste that is generated by Blue Mountains LGA, some 60,000tpa is disposed of to Blaxland and Katoomba WMFs each year as shown in Table 3-5 below.

Table 3-5: Average Waste Diversion and Disposal

Consolidated Waste Figures	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Total Tonnes Received	126,086	121,181	103,126	101,485	115,401	102,192
Tonnes Cleanfill	57,212	44,301	28,894	23,747	38,819	28,888
Total Tonnes Diverted	8,902	12,917	12,912	18,694	12,507	13,677
Total Tonnes Landfilled	**59,972**	**63,963**	**61,320**	**59,044**	**64,075**	**59,627**

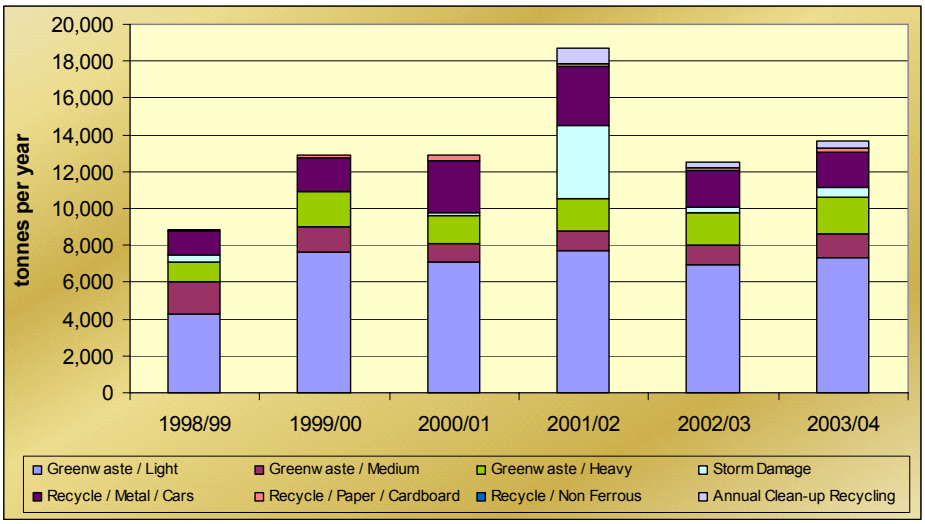

Figure 3-4: Waste Diversion

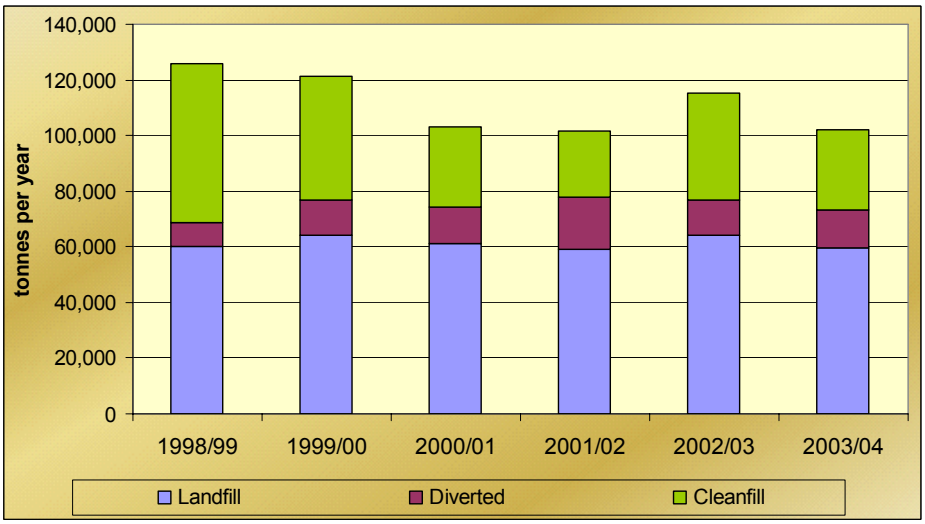

Figure 3-5 Waste Landfilling & Diversion

At the above disposal rates, it is estimated that the remaining life of the landfills at Katoomba and Blaxland WMFs are estimated to be two and one years respectively. Upon closure of Katoomba Landfill, a transfer station is proposed to be constructed at the site to enable transportation of waste to Blaxland landfill which is proposed to be extended by 1 million cubic metres within the next year.

3.2 Potential Future Waste Diversion

In order to determine the potential for diverting waste from landfill, historical and current waste diversion quantities have been estimated. A breakdown of waste diversion estimates is given in Table 3-6.

Table 3-6: Future Waste Diversion Opportunities

Waste Stream	Pre 2003 Estimate (tpa)	2004/05 Estimate (tpa)	Future Projection[1] (tpa)
Domestic Residual Waste	29,032	26,333	14,800
Domestic Kerbside Recyclables	4,355	6,078	8,500[2]
Domestic Organics (Garden & Food) Reprocessed		3,280[3]	12,700[4]
Mixed Commercial / Industrial Residual Waste	11,226	13,478	9,500
Mixed Commercial / Industrial Recyclables			4,100[5]
Mixed Building / Demolition Residual Waste	21,621[6]	8,100	6,116
Mixed Building / Demolition Recyclables		13,500	15,700[7]
Other Residual Waste	11,377	8,656	8,700
Drop-Off Recyclables	2,428	2,179	2,500
Annual Clean-up Recyclables		368	500
Drop-off Greenwaste Recycling	10,554	11,130	11,100
Total	**90,593**	**93,102**	**94,216**

1) Assumes a slight increase in total waste generated.
2) Potential recyclate capture of 10% from domestic kerbside garbage
3) Density of kerbside chipped material assumed to be 200kg/m^3
4) Potential organics capture of 45% from domestic kerbside garbage
5) Assumes potential recyclate capture of 30% from commercial & industrial stream
6) Some clean fill thought to be included in mixed building & demolition waste
7) Assumes additional 25% capture from building & demolition stream

Here it should be noted that due to the staggered introduction of such services as kerbside recycling, chipping, kerbside clean-up, and construction & demolition processing, waste estimates have been based on average generation data and likely capture quantities. Thus it was possible to develop waste diversion "snapshots" for different time periods.

Based upon the estimated waste quantities, it is projected that in the future, Blue Mountains may be capable of diverting in excess of 58% of its waste from landfill. Such gains would principally be derived from increasing recyclate capture and processing organic waste from domestic sources.

Table 3-7: Diversion Rates

	Pre 2003 Estimate	2004/05 Estimate	Future Projection
Wastes Disposed of to Landfill (tonnes/yr)	73,256	56,567	39,100
Materials Diverted / Potentially Diverted (tonnes/yr)	17,337	36,535	55,100
Estimated / Potential Diversion Rate	19%	27%	58%

3.3 Waste Management Infrastructure

Within the LGA, there are two main waste management facilities (WMFs) for the management of waste. These are:

1. Katoomba WMF located at Woodlands Road; and

2. Blaxland WMF located at Attunga Road.

As both of these sites accept in excess of 5,000 tonnes of waste for disposal each year, they are licensed by the Department of Environment and Conservation. These licences specify the conditions under which these facilities are to be operated, including air, noise and water monitoring levels.

Landfilling operations at Katoomba WMF commenced in 1906 and it is currently estimated that the site has approximately 1-2 years of landfill life remaining. After this time, it is anticipated that a transfer facility will be constructed on the site to transfer waste to Blaxland WMF. Similarly, wastes have been landfilled at Blaxland WMF since the early 1950's. Currently it is estimated that the site has approximately 1 year of landfilling capacity remaining. After this, it is anticipated that an extension of the landfill will be undertaken.

Both of these sites are located in natural valleys with urban development nearby. Whilst the operation of these sites is contracted out, Council maintains control of the gatehouse operation and conducts an independent, ongoing program of environmental monitoring at both sites. At each of these sites, domestic, commercial / industrial and building / demolition wastes are disposed of by landfilling.

Recycling activities are also carried out at both sites. Facilities are provided near the gatehouse areas for the collection of paper and cardboard together with glass and aluminium. The collection of scrap metal and whitegoods is also carried out on the sites and green waste is processed to produce mulch for the purposes of site rehabilitation.

In addition to the above two Waste Management Facilities, Council operates a Resource Recovery Centre located at Springwood. Here construction and demolition wastes are reprocessed to produce material which is used internally for engineering works or sold externally to generate revenue / cost savings. The composting of garden organics has also been successfully trialled at this facility.

3.4 Waste Management Resources

3.4.1 Staff Resources

Within Blue Mountains City Council, responsibility for the planning of waste management services lies with the Environmental Management Branch's Waste and Resources Team within the City Solutions Group. This team is responsible for the management of Katoomba and Blaxland Waste Management Facilities, kerbside chipping services, annual clean up service, kerbside recycling service, household hazardous chemical collections, education and promotion, research and compliance issues.

The delivery of many of Council's waste services falls with the BM City Services group who are responsible for the provision of household garbage collection, annual clean up services, one section of Council's kerbside chipping service, operation of the Resource Recovery Centre, and effluent collection and disposal.

3.4.2 Funding Resources

In accordance with the Local Government Act 1993, Council funds the provision, management and operation of waste removal, recycling, treatment and disposal services and facilities through the Domestic Waste Management Charge on domestic rates. Presently, this charge is set at $194.00 per household for the 2004/05 financial year.

It is understood that this charge will rise in 2005/06 to cover an expanded household service which will include:

- Provision of an improved kerbside chipping service;
- A transition to more sustainable bin sizes (optional to households);
- The establishment of a new recycling contract;
- Extension of Blaxland WMF; and
- Establishment of a transfer station at Katoomba WMF;

In addition, funds for waste services are also raised through the charging of facility gate fees and capital works budgeting (for infrastructure). Here, a gate fee of $57.00 per tonne is charged for mixed loads at Blue Mountains' waste management facilities. Our gate fee is $10 per tonne less than at comparable landfills in metropolitan Sydney because we do not have to pay the Section 88 Waste Disposal Levy, which is charged for all waste entering landfills in the Sydney.

4 STATE AND REGIONAL TRENDS

4.1 Waste Disposal in New South Wales

In total, some 12.2 million tonnes of waste was generated in NSW in 2002-03. Of this, around 6.34 million tonnes was disposed of, principally to landfill, while the remainder was recycled in some form. Thus, the state-wide recovery rate is estimated to be 48%. A summary is given in Table 4-1.

Table 4-1: NSW Total Waste Generation 2002-03

Waste Stream	Disposed	Recycled
Municipal (eg, primarily waste from households)	2,170,000	1,155,500
Commercial & Industrial (eg, primarily waste from workplaces)	2,831,000	1,364,500
Building & Demolition (eg, primarily waste from building sites)	1,340,000	3,308,500
TOTAL	**6,341,000**	**5,828,500**

Source: NSW DEC (2004)

Presently, the main method for disposing of municipal and other wastes which contain food or other readily degradable (putrescible) matter is by landfilling. The putrescible landfills designed to accept these materials are required to be of a higher standard than facilities which only accept inert or non-degradable wastes. Of the waste disposed to putrescible landfills each year, around 50% or almost 1.4 million tonnes is estimated to be municipal solid waste while the remainder is commercial and industrial waste.

Of NSW's waste disposal, around 5.2 million tonnes was generated in Sydney. A summary of waste disposal quantities in the Greater Sydney Region is given in Table 4-2

Table 4-2: Waste Disposed by Stream in Greater Sydney Region 2000 to 2002-03

Waste Stream	2000	2001-02	2002-03
Municipal	1,773,742	1,695,255	1,657,111
Commercial & Industrial	2,519,548	2,178,511	2,358,125
Construction & Demolition	1,124,951	1,118,513	1,193,233
Total	**5,418,240**	**4,992,280**	**5,208,469**

Source: NSW DEC (2004)

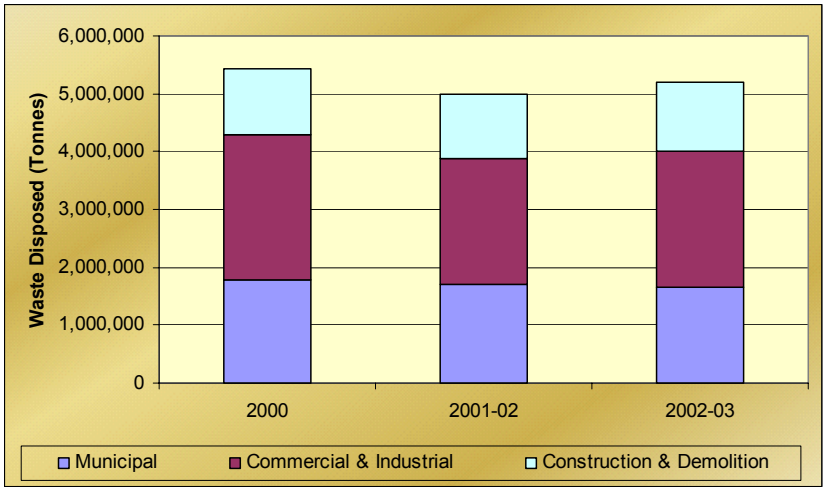

Figure 4-1: Greater Sydney Region Total Waste Generation 2000 to 2002-03

Over the past 3 years, the total waste disposed in Sydney has fallen by about 2% per year. In terms of municipal waste, the rate of disposal has fallen by almost 3% over the corresponding period, which is consistent with the Blue Mountains' fall in domestic garbage disposal.

In September 2000, an independent assessment commissioned by the NSW Government (the Independent Public Assessment of Landfill Capacity and Demand) concluded that without the rapid uptake of significant new schemes to divert waste, a substantial increase in landfill capacity would be required in Sydney. This capacity was recently boosted by the opening of Collex's landfill located at Woodlawn, near Goulburn to supplement the four metropolitan facilities operated by Waste Service NSW, a Government trading enterprise.

Also supplementing Sydney's disposal capacity is the Waste Service NSW / Global Renewables UR-3R facility located at Eastern Creek, some 20 kilometres from the Blue Mountains LGA. This 175,000 tonnes per year "alternative waste treatment" facility is designed to recover recyclables from municipal solid waste and treat the remaining material to produce biogas for energy and compost-like material.

Within Sydney, there is currently a general drive towards establishing alternative waste treatment technologies. This is driven by rising landfill prices and commitment to more sustainable outcomes. Within regional NSW, there is evidence of similar trends on a smaller scale, with the operation of processing facilities at Hastings and Port Macquarie. In addition, significant planning work is being undertaken by Orange City and Cabonne Councils to establish a waste processing facility in Molong.

4.2 NSW Waste Legislation, Regulation and Policies

Waste infrastructure planning and management have long been recognised as significant issues at both the State and Local Government levels in NSW, evidenced by the number of related statutes and policies which include the:

- *Local Government Act 1993;*
- *Environmental Planning and Assessment Act 1979;*

- *Protection of the Environment Operations Act 1997;*
- *Waste Avoidance and Resource Recovery Act 2001;*
- *Resource NSW: Waste Avoidance and Resource Recovery Strategy 2003;*
- *Department of Environment and Conservation: NSW Waste and Resource Recovery Strategy – Action Plan for Local Government Consultation Paper, 2003; and*
- *Extended Producer Responsibility Statement 2004.*

Waste management legislation is complex and a detailed examination of regulations surrounding the provision of waste-related services and infrastructure development is often required to ensure statutory compliance. Along with the encouragement of responsible waste management by the Department of Environment and Conservation, there has been a gradual "tightening" of legislation to deal with parties (including Local Governments) causing environmental degradation as a result of poor waste management practices.

This is evidenced by the numerous guidelines and associated reporting requirements and has seen the formation of hierarchies of responsibility along with the assignment of substantial penalties for environmental breeches or where a risk of significant harm is believed to exist. These point to an increasing requirement for those assigned with the responsibility of managing waste to ensure that their operations incorporate mechanisms to deal with risk in a pro-active manner. Such mechanisms include constant monitoring of facilities, maintenance and updating of operating practices / procedures and long term planning to meet future requirements.

A brief examination of waste related legislation and policies is given in Appendix A.

5 SUSTAINABILITY AND WASTE MANAGEMENT EDUCATION

Education is considered a foundation of sustainable development, as it helps to create an informed, empowered community, capable of developing a healthy society from both an environmental and economic perspective. Within Blue Mountains City Council, waste education helps the community to improve their lifestyles by managing their waste more appropriately.

5.1 BMCC Waste Education Initiatives

BMCC provides a range of education forums to the community about waste management. They range from information based initiatives (such as brochures) to opportunities for hands-on activities (such as Earth Works).

5.1.1 Information-based education

a) Website information

The BMCC website (www.bmcc.nsw.gov.au) has a dedicated section about waste management and recycling. The site includes information about:

- Waste collection services (including household hazardous chemical collections, spring clean-up, kerbside recycling, garbage service, and kerbside chipping);
- The operations and gate fees of the two Waste Management Facilities;
- Applications forms for special services and bins;
- A downloadable brochure about waste avoidance in the home;
- Earthworks registration;
- Description of a cigarette butt litter campaign;
- Operation of the Waste Education Resource Centre.

The site also encourages queries about waste management, and contact details via phone or email are included.

b) Household Resource Recovery Guide

The new Household Resource Recovery Guide is an annual booklet that is delivered to each household. It contains the following information:

- Instructions about the handling of waste for kerbside chipping, annual clean-up, hazardous chemicals and recyclables;
- A calendar of collection dates for kerbside chipping, annual clean-up service and hazardous chemicals;
- Recycling opportunities for miscellaneous items such as ink cartridges, mobile phones, and plastic bags;
- Location of recycling drop-offs;

- Earthworks registration; and
- New mini bin garbage service.

c) Environmental Talks

Talks are given regularly to primary schools, high schools, TAFE classes, garden clubs and other community groups. They generally focus on composting, worm farming and recycling. These talks also create an opportunity for residents to ask questions about other services and how they are managed.

Information displays are also held at festivals such as World Environment Day and school fetes.

d) Local Newspaper

Information is also distributed through the local newspaper which is delivered to each household weekly. This includes information about upcoming services (household hazardous chemical collections, kerbside chipping and annual clean up), recycling performance (feedback to community provided each quarter) and waste audit results.

e) Rates Notice Newsletter

Information about Council services is promoted through this quarterly newsletter to ratepayers. This includes recycling reminders, the new mini bin service, plastic bag campaigns and waste audit results.

5.1.2 Action-based Education

a) Earth Works

The 'Earth Works' program consists of a series of hands-on workshops, tours and information sessions about waste avoidance and recycling, managing organics in the home (eg composting and worm farming), organic gardening and natural cleaning methods.

BMCC's most recent Earth Works program was very successful, with a total of 23 participants (and an 83% completion rate). The knowledge and confidence levels of participants increased for all activities conducted within the program.

b) Waste Education Resource Centre (Katoomba Landfill)

The Waste Education Resource Centre (WERC) is located at Katoomba WMF, and is designed to promote waste education to schools, residents and businesses. The WERC provides a gathering place and resources (video, printed material, model of a landfill cell) to facilitate learning about the waste stream, waste handling and waste disposal issues.

Programs at the WERC are tailored to meet the needs of the target audience, and are led by BMCC staff. They include site tours of the Waste Management Facility, and practical methods for waste minimisation.

c) Mountain Living Course

This is a new course being piloted in North Katoomba in 2005 which combines elements of the Earth Works course, as well as education about weeds, water management and living sustainably. It is a joint venture with a number of specialities in the Environmental Management Branch.

d) Business Advantage program

The Business Advantage program targets local businesses in the Blue Mountains area. It is run through the Blue Mountains Business Network (BIZNET) with the principal brand partners Blue Mountains Tourism and Blue Mountains City Council. In order to become a 'brand partner' and therefore share in the benefits associated with the Blue Mountains 'brand', businesses can enrol in an accreditation program in Sustainable Business Practices. The Sustainable Business Practice aims to incorporate social and environmental elements into a business' bottom line. It provides an awareness of the opportunities for actioning sustainability in the day-to-day activities for individual businesses (www.bluemountainsadvantage.com.au).

6 REFERENCES

1. APrince Consulting (2000), *Waste Audit for Blue Mountains City Council*;
2. APrince Consulting (2003), *Residential Waste Audit for Blue Mountains City Council*;
3. Australian Bureau of Statistics (2001), *Census of Population and Housing – Blue Mountains*;
4. Blue Mountains Business Advantage website (2005) http://bluemountainsadvantage.com.au/
5. Blue Mountains City Council (1995), *Total Waste Management Strategy*;
6. Blue Mountains City Council (2002), *Total Waste Management Strategy 5 Year Review – Waste & Support Services*;
7. Blue Mountains City Council (2003), *Options for Long-Term Waste & Resource Management Solutions – Final Report*;
8. Blue Mountains City Council (2005), *Household Resource Recovery Guide*;
9. NSW Department of Environment and Conservation (2003), *NSW Waste Avoidance and Resource Recovery Strategy: Action Plan for Local Government – A Consultation Paper*;
10. NSW Department of Environment and Conservation (2004), *Waste Avoidance and Resource Recovery in NSW – A Progress Report 2004*;
11. NSW Department of Environment and Conservation (2004), *Extended Producer Responsibility Priority Statement*;
12. NSW Department of Local Government (2004), *Comparative Information on New South Wales Local Government Councils*;
13. Resource NSW (2003), *Waste Avoidance and Resource Recovery Strategy*;
14. R.W. Corkery & Co and Nolan-ITU (2004), *NetWaste Eastern Subregional Waste Management Plan*;
15. The Environment Council (2003), *Best Practice Guidelines on Public Engagement for the Waste Sector*;
16. Wright A.G. (2000), *Independent Public Assessment – Landfill Capacity and Demand*;

Appendix A

NSW Waste Related Legislation and Policies

a) Local Government Act 1993

Under Chapter 6 of the *Local Government Act 1993*, Councils' non-regulatory functions include the provision, management or operation of "waste removal, treatment and disposal services and facilities". Section.504 of the Act prescribes not only how the cost of services are to be recovered, but also broadly, the level of these charges. This may limit a Council's ability to pursue more expensive waste management options, which might result in a significant increase in their annual waste charges.

While subsection (1) states that a Council must not apply income from an ordinary rate towards the cost of providing domestic waste managements services, subsection (1A) allows income from an ordinary rate to be lent (by way of internal loan) for use by Council in meeting the cost of providing domestic waste management services.

Other sections of the Act relate to Councils' authority to approve (or otherwise) management of waste, and a requirement to include waste-related issues within the environmental section of Council Annual Reports .

b) Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* is a key legislative instrument in the overall management of waste and its effects on the environment. It establishes the framework for permitting and operating of waste facilities, specifying licences, operating documentation, operating standards, and remedies for waste-related activities, which may include remediation works.

The Act prescribes the licensing requirements and environmental standards to which facilities conducting scheduled activities should operate. Specifically, Schedule 1 of this Act lists solid waste landfills receiving over 5,000 tonnes per year of solid waste, or solid waste and inert waste, as EPA-licensed activities. The meaning of solid wastes is further defined in Schedule 1, Part 4.

A notable feature of the Act is the system of penalties that impose a heavy responsibility on individuals and corporations to ensure that the environment is not harmed as a consequence of its activities, including waste management.

In terms of ensuring adherence to relevant environmental standards and licence requirements, Chapter 7 of this Act details the investigative powers of the NSW Environment Protection Authority and its officers.

c) Waste Avoidance and Resource Recovery Act 2001

The *Waste Avoidance and Resource Recovery Act 2001* sets forth the State's overall objectives in the management of waste. It is notable that "the waste hierarchy" has been enshrined within the objects of the Act i.e.

3(b)(i) Avoidance of unnecessary resource consumption;

3(b)(ii) Resource recovery (including reuse, reprocessing, recycling and energy recovery); and

3(b)(iii) Disposal.

The hierarchy discourages consumption and encourages resource recovery in its many forms, thereby placing an increased emphasis on alternative technologies for recovering resources and treating waste.

d) Resource NSW: Waste Avoidance and Resource Recovery Strategy 2003

The *NSW Waste Avoidance and Resource Recovery Strategy 2003* was released in February 2003 by the then Resource NSW (now NSW Department of Environment and Conservation). The four key outcome areas put forward within the strategy are:

1. preventing and avoiding waste;
2. increased recovery and use of secondary resources;
3. reducing toxic substances in products and materials; and
4. reducing litter and illegal dumping.

These key outcome areas are supported by broad targets, which are detailed within Section 3.1 of the Strategy. The prevention of waste target aims to hold waste generation levels for the next five years to that produced in 2000, taking into account a projected population growth of 1% per year and economic growth of around 2.5% per year.

The resource recovery targets adopted within the Strategy are the "aggressive" targets aimed at achieving a 66% percent municipal diversion, 63% C&I diversion and 76% C&D diversion within the next 12 years. To achieve these targets, 40%, 35% and 11% increases on current recovery rates will be required for each respective waste stream. Namely, the greatest amount of work needs to be done in terms of the municipal solid waste sector which covers ratepayers and their Councils.

The reduction of potentially toxic substances target is specifically aimed at phasing out priority substances in identified products as a first choice. If this is not possible, the aim is to achieve maximum recovery for re-use, and where identified products containing these priority substances require disposal, reduce the leachability of these substances to levels permitted for inert waste.

Reduced litter and illegal dumping does not have a quantitative target since as an accurate picture of the amounts of litter and illegal dumping are not yet available.

Within Section 2.5 of the Strategy document, Local Councils are identified as playing a major role in waste management, being largely responsible for dealing with municipal waste through garbage, recycling and hard rubbish collections.

Section 2.11 acknowledges the unique challenges faced by regional NSW in terms of population characteristics and transport distances in relation to opportunities for resource recovery. Thus, it recognises that a different support structure is required to support initiatives in these areas and commits to providing funding support for the regional plans, focusing on specific waste streams and initiatives, developed by regional groups (including NetWaste, an collaborative effort between 28 rural Councils, of which Blue Mountains City Council is a member) established throughout NSW. Notably, the document reports that extra tonnages of municipal, commercial & industrial (C&I) and construction & demolition (C&D) wastes for recovery within rural parts of NSW are yet to be calculated and that this data must be collated, particularly in the case of organic waste.

e) Department of Environment and Conservation: NSW Waste and Resource Recovery Strategy – Action Plan for Local Government Consultation Paper, 2003

Within this consultation paper, the increasingly significant role of Local Governments in co-ordinating waste management activities is acknowledged. In particular, the following Council activities are specifically referred to:

- Service delivery and integration of resource recovery systems;
- Land-use planning and development through local Orders and policies,
- Development Control Plans, infrastructure development and strategic land use planning;
- Purchasing recycled content products and materials;
- Educating communities and delivering local programs on waste avoidance and resource recovery; and
- Data collection and reporting.

Moreover, this paper details the intention to adopt a resource recovery target for the municipal waste stream amounting to an additional 700,000 tonnes per year by 2014, i.e., increasing the resource recovery rate from the current 26% to around 66%. To achieve this, actions in the areas of:

1. Increased organics diversion;
2. Increased collection of kerbside recyclables; and
3. Treatment and processing of mixed residual waste;

are put forward for the medium term (2008) and long term (2014), according to the following targets listed in Table 6-1.

Table 6-1: Waste Avoidance and Resource Recovery Impacts, NSW (2002 to 2014)

Municipal Waste	Current Performance	Improved Scenario	Aggressive Scenario
	(2002)	(2008)	(2014)
Recycling rate (dry recyclables)	19%	23%	27%
Organic processing rate (including garden and food)	9%	16%	23%
Residual waste processing rate	<1%	12%	16%
Disposal Rate	72%	49%	34%

However, it is noted that not all Councils may choose to implement the specific actions put forward, rather opting for other opportunities for increased resource recovery, based on local or regional waste characteristics. Notwithstanding this flexibility, Councils are strongly encouraged to measure the performance of new resource recovery systems and develop protocols for reporting their progress against the suggested targets.

f) Extended Producer Responsibility Statement 2004

In March 2004, the DEC released the *Extended Producer Responsibility Priority Statement 2004*. This document identifies 16 wastes of concern with nine of these wastes receiving priority focus in 2004. The intention of this statement is to put the industries producing the identified waste on notice to act to reduce the amount and/or impact of their products in the waste stream. It specifies the action that will be taken over the next 12 months in relation to the identified wastes of concern, particularly those to receive priority attention.

The criteria used to identify waste of concern suited to management by Extended Producer Responsibility (EPR) schemes were:

- detrimental environmental and/or public health impacts resulting form the recovery and/or disposal of the product;
- total volume of the waste requiring disposal and/or the percentage of the waste stream it comprises;
- potential for waste avoidance, reuse or beneficial resource recovery;
- potential to contaminate waste streams and limit opportunities for resource recovery;
- likelihood of illegal disposal through dumping or littering;
- level of community concern about the waste; and
- extent to which EPR is the appropriate tool for managing the waste.

In determining the extent to which EPR is the appropriate tool for managing a particular waste, consideration was given to whether:

- there are clearly identifiable producers;
- the producers have a reasonable capacity to take action;
- there is a well structure or organised industry sector; and
- there is a capacity to influence the whole supply chain.

Using the above assessment criteria, the DEC has identified the following 16 wastes of concern that are suitable for management by EPR schemes:

1. computers;
2. televisions;
3. used tyres;
4. nickel cadmium batteries, excluding mobile phone batteries;
5. plastic bags;
6. agricultural / veterinary chemicals
7. agricultural / veterinary chemical containers;
8. mobile phones and batteries;
9. packaging waste, excluding plastic bags;

10. cigarette litter;
11. electrical products, excluding computers, televisions and mobile phones;
12. end-of-life vehicle residuals;
13. household hazardous and chemical wastes;
14. office paper;
15. polyvinyl chloride (PVC); and
16. treated timber.

Over the next twelve months, priority focus will be given to computers; televisions; used tyres; nickel cadmium batteries (excluding mobile phone batteries); plastic bags; agricultural / veterinary chemicals; agricultural / veterinary chemical containers; mobile phones and batteries; and packaging waste (excluding plastic bags). This will involve manufacturers / industry bodies being asked to develop strategies for recovery of the above items to be considered by an expert panel. Depending upon the industry response, legislation may be introduced next year which may incorporate fines for those deemed not to be taking adequate action.