



Bin Materials Audit

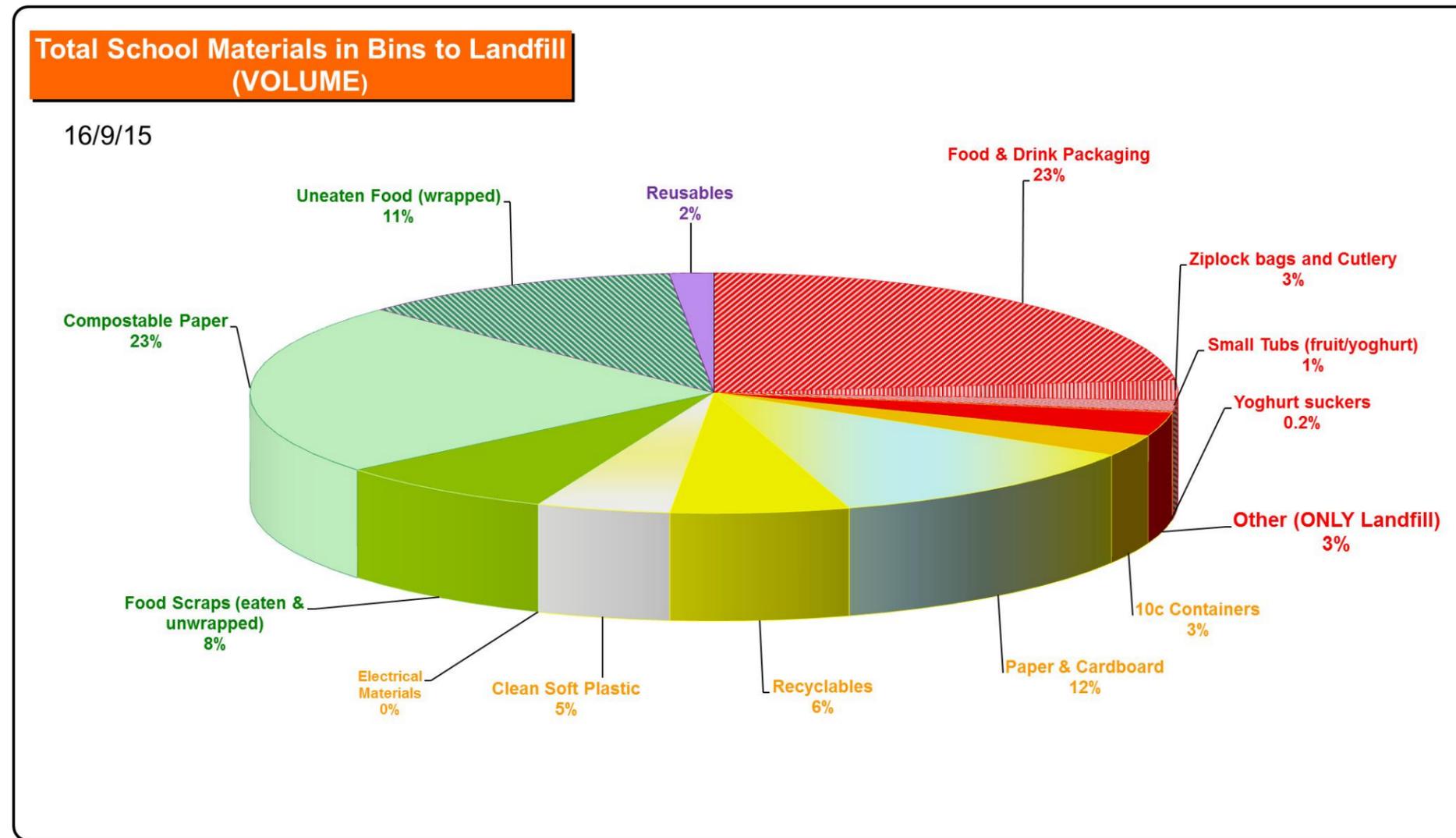
Blackwood Primary School

16 September 2015

Wipe out Waste

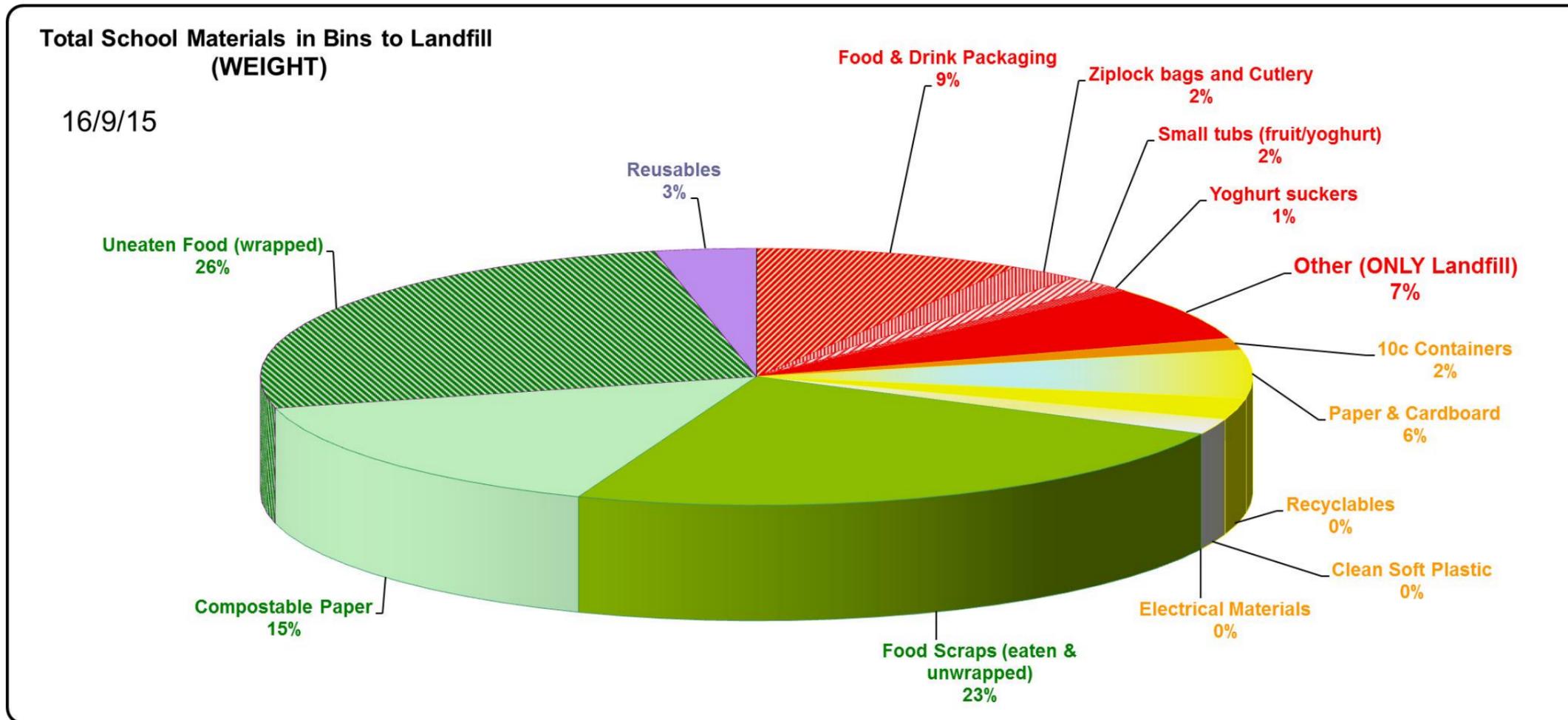
Currently **129 Litres** per day are going to landfill.
 This is equivalent to **0.496 Litres** per person per day.

HOWEVER – only **4 Litres** HAS to go to landfill. By **reducing, reusing** and **recycling** Blackwood Primary **could reduce their waste to landfill by 97%.**



During a WOW audit, the materials are measured by volume and weight. Often information relating to landfill, recycling and resource recovery is reported by weight, as this is how we pay for landfill in metropolitan areas. We believe that volume is a more useful measure for education sites as this determines how many bins are required and also how much space in the landfill the materials will take up. Throughout this report, the volume measure is more prominent; however the weight is referred to in a few cases. The raw data and excel tables and charts have also been sent to your site. These can be used for additional classroom learning opportunities, such as a comparison and discussion around units of measurement and specifically the weight and volume.

The table below indicates the materials found in bins, by WEIGHT. While we don't consider this to be as useful a unit of measurement for sites, it is a very useful maths literacy exercise for students to compare the weight and volume charts. Comparing heavy items (eg Food scraps with their volume) can be particularly dramatic! This may prompt the question: which unit of measurement provides us with the most useful information? This is a very important factor in developing experiments and surveys. This questioning could also be applied to information about recycling (eg some councils have high recycling rates- by weight- as they may generate more glass items than other areas which may have a higher volume- eg plastics and cardboard). You could do weight vs volume recycling activities as homework or between classes or areas of your site.



Recyclable Materials - 33 L, 2 kg per day, 25% of the total volume of materials to landfill

33 Litres of recyclable materials could be recovered from the landfill bins.

Recyclable materials are things that could be reprocessed and turned into products again, instead of going to landfill.



Paper/Cardboard
15 L per day
which makes up
12% of the total
volume of materials
in the landfill bins.



10c Containers
10 containers per day
= \$1.00/day
In a year you could
raise
\$200



Clean Soft Plastic
This mostly comes
from libraries,
canteens and
offices.
6 L was found
in the landfill bins.



Recyclables
are commonly found in
OSHC, school canteens,
home economics areas,
and staff rooms where
there is access to water
for rinsing. **8 L** which
makes up **6%** of the
total **volume** of
materials in the landfill
bins.



Electrical Materials
This is a growing global
issue. Electrical
materials should be
disposed of correctly
and safely.
There was
0 L of
electrical
materials that
could have been
disposed of differently.

Compostable Materials - 55 L, 9 kg per day, 42 % of the total volume of materials to landfill

55 Litres and 64 % of the total weight were potentially compostable items and could be recovered from landfill bins.

Compostable items are things that once grew and can be returned to the earth as compost to help more things grow.

The type of composting system and ability to compost on site will depend on the size of your site and conditions specific to your area.

Food Scraps



10 L of the landfill bins
were food scraps - **8%**
of the total **volume** of
materials in landfill bins.
However, food scraps are
some of the heaviest landfill
items, weighing in at **3 kg** -
23% of total **weight**.



Compostable Paper
This consists of paper towel,
tissues and paper bags.
30 L per day =
23% of total
volume.



Garden Material

0 L of garden
materials were in the
landfill bins.



Uneaten Food
15 L, 3 kg was in the
landfill bins, often still
wrapped or in a packet. This
was **11%** of the total
volume of landfill bins.
Ideally this would be
significantly **reduced**.

Recycling

Paper/Cardboard recycling:

12% is almost half the average of 22% for paper/card, so well done! This means that 300L/yr are going to landfill, so it is always worth surveying the site to ensure that all areas have paper/card recycling containers and that new staff and students and cleaners are aware of how the system works. Placing recycling containers close to landfill bins so that people with more than one item in their hand can easily make good choices is helpful.

10c Containers: Even though the current system is working effectively, it is worth ensuring that all new students and staff know about the collection for these containers even though the existing. Pictorial signage to indicate ONLY 10c containers may also be helpful, and if you are really keen attach a bottle for lids and straws to be collected for recycling (see Highbury PS case study).

Clean Soft Plastic: 6L of this material was found (1 200L per year), which has likely come from the canteen, library and office areas. This material could be collected and taken to a supermarket with a soft plastic collection.

Recyclables: We recommend this material be collected ONLY from Staff, OSHC and Canteen areas where there is access to water to ensure items are clean enough for recycling. This can then be decanted into council recycling bins which are kept out of public areas.

Electrical materials: Although none of material found **these items and Fluoro tubes are banned from landfill and so should not go into school skips or bins. These items can generally be taken to a transfer station, resource recovery centre or Mitre 10 for domestic bulbs) For more information on e-materials disposal look at the Tricky Waste**

http://www.wow.sa.gov.au/uploads/1/9/2/6/19269635/tricky_waste_information.pdf

Or the Zero Waste SA website.

Composting

Food Scraps: This is just below the average figure of 10%. Most material is being collected in the compost caddies, but there are 50L per week NOT being collected. The new collection system is working really well, although you are generating more than is able to be composted on site, when the garden and compost area is established. Consider offering buckets of scraps to families with chooks or animals- another great way to use this valuable resource. We strongly suggest that you explore organics bins provided by your collection contractor- which can save \$\$ compared to landfill collections and also ensures this material is turned into a valuable resource, rather than creating methane in landfill. You will find that the prices are very reasonable, and a more regular collection (once or twice a week) is more suitable for schools than the fortnightly council collection which is designed for residential collections. The odour (especially in Term 1 and 4) and weight of bins can create some OHS&W issues with fortnight collections. We suggest that organics bins with mostly food scraps are only filled to a third or half, so that they are able to be moved AND collected by the truck which has a 60kg maximum on its bin lifting arm.

Compostable Paper 6 000L/yr of Paper towel from staff toilets and paper lunch order bags can be placed in compost caddies, as the paper to food scraps ratio is important to make a good mix for a successful composting process. A visual reminder on the caddies reminder could help capture more of this, and perhaps green buckets in staff toilets that can be emptied daily by students into organics bins.

Uneaten Food: This is above the 7 % average and included sandwiches, apples (some nibbled at), and other items. Aim to reduce this by sending uneaten food home, and encouraging discussions with parents about how much and what students can eat in a day. Work with families to ensure that it is OK to bring home uneaten food to eat later. Discuss with students about packing their own lunches (for those old enough) to ensure that what they like to eat at school and the right quantities are in their lunchbox. Check out the less to landfill Healthy lunchbox items that make great homework/discussion activities. Consider linking with nutrition and food tech learning opportunities.

Reusable Materials - 2 L, 0 kg, 2 % of the total volume of materials to landfill

Reusables are items that could be used again before disposal, and are often things that shouldn't have ended up in the landfill bins to start with!

2 L of reusable items were found in the audit.
This included:



Reducable Materials - 40 L, 3 kg, 31% of the total volume of materials to landfill

Items in the 'Reducing' Category currently have no easy way to be managed in a school environment. Many of the things such as food and drink packaging can be avoided or sent back home to reduce the amount of materials going to landfill from your site. This also includes the category of 'other' - **in an ideal situation, 'other' is the ONLY material that would be going to landfill.**



Food and Drink Packaging

35 L per day = 7 080 L a year or 30 wheelie bins. It is **28%** of the total **volume of materials in landfill bins.** As these items can't be recycled, reducing their use is the best option!



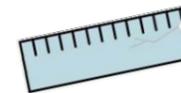
Ziplock Bags & Cutlery

63 ziplock bags per day were found. This equates to **12 600/yr**, or around **\$1 260** of ziplock bags each year! There were **8 pieces of disposable cutlery = 1 600/year.**



Small Tubs and suckers

There were **13 tubs in the landfill bins. This equates to 2 600 per year!** And **7 yoghurt suckers** a day, which equates to **1 400** costing **over \$1 400** per year going to landfill.



Other

Only **4L** of material could not be reduced, reused, recycled or composted was sent to landfill. This is just **3%** of what is currently going to landfill.

Reducing

Food and Drink Packaging, Ziplock Bags & Cutlery, Small Tubs:

This could be reduced by encouraging Wipe Out Waste or Nude Food days, and trying the Less to Landfill Challenge across the school. Sharing audit results with parents via newsletters and assemblies and encouraging students to take uneaten food home will help reduce this wastage. This is an area to work towards reducing and avoiding, and links well with healthy eating strategies in consultation with parents. Working to reduce this is a long term challenge, with helpful information for parents (presented at events and through the newsletter) a key factor. Strategies that have worked well at sites include:

- Regular 'Nude Food' or waste less lunch/recess days
- Parents and VIP initiatives, which may be linked to healthy eating and food garden programs.
- Bin free days so that leftovers and packaging are taken home
- Sandwich wraps can make an excellent fundraiser -see www.4myearth.com.au

For long-term reduction of packaging, education and support for parents is essential so that families are responsible for their own packaging. Most of the materials to be reduced are from family purchasing decision making. Newsletter articles, discussions at assembly, or new student information packs could be a way to educate parents on more sustainable ways to bring food to school.

Families could collectively save around \$4 000/yr by reducing packaging!

Several sites have removed outdoor bins for students and staff, placing the onus on individuals to take personal responsibility for excess materials they create, and **saving significantly on time spent by staff emptying bins as well as school \$\$ spent on collection of these materials!**

Other: In an ideal situation where items are reduced, reused, recycled or composted (or taken home for chooks or pets) there is very little material that MUST go to landfill. This is a long term goal to aim for which can provide a range of contextual learning opportunities and cost savings for the site.

Currently, the equivalent of 107 wheelie bins (240L) a year are going to landfill. However, with 'ideal' collection and avoidance systems in place, the total daily volume of material to landfill for the entire school could be around

4 L per day = 205 L per term = 820 L per year - or just 3 wheelie bins per year!



This is a great long term goal to strive for, and some sites have reduced their material to landfill by more than half after conducting a bin audit. This can also deliver significant cost savings for the school and is worth discussing with finance staff.

Your site compared to State Average

When comparing between sites, a per person per day (pppd) measure is used. This allows a degree of normalisation for sites of differing sizes.

A brief comparison is shown in the table below - see the data sheets for more detailed data.

	Your School	Average of all SA Primary Sites (n=145)
Recyclables stream	0.13	0.21
Compostables stream	0.21	0.22
Reusables stream	0.01	0.03
Landfill stream	0.15	0.19
Total Material Audited	0.50	0.65

Blackwood Primary School is below the state average, based on a per person measure of total materials audited. This amount could be further reduced by following some of the recommendations made for resource recovery and waste reduction. Collecting compostable paper will reduce landfill volume by 25%, as will working towards reducing packaging- which is a long term goal!

Please ensure that your site maintains contact with the council Waste/Sustainability Education Officer: Gemma Chambers (gchambers@mitchamcouncil.sa.gov.au)

And NRM Education staff, particularly if you are a Sustainable School site, as they can support you with engaging staff, linking to a School Environmental Management Plan- SEMP.

<http://www.naturalresources.sa.gov.au/adelaidemtloftyranges/education/for-educators>



For more information, questions or queries, please contact the WOW team at KESAB.

Jo Hendrikx— jo@kesab.asn.au

Cally Malone— cally@kesab.asn.au

Phone: 8234 7255

Composting - 42 % of the total volume

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