



# Waste Data

For period August 2010 to July 2011

Comprehensive waste arisings data covering main campuses and outliers for the financial period.

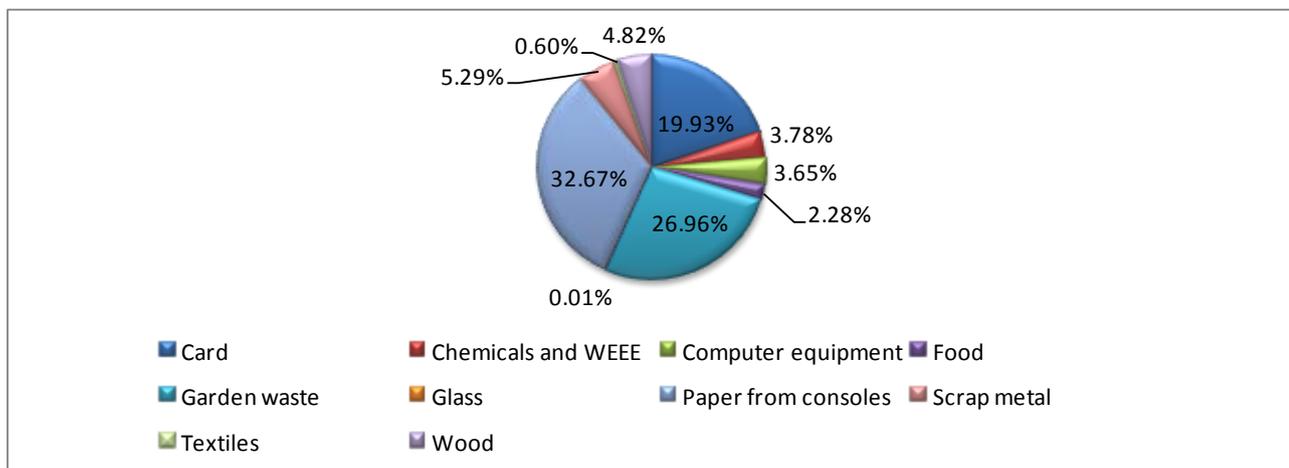
**Waste and Environmental Manager**  
8/10/2011

## Executive Summary

Over the last financial year (August 2010 to the end of July 2011) the University produced **1441.93 tonnes<sup>1</sup>** of waste. The table below illustrates how this figure is compiled. Of this overall figure, **0.94%** of waste was **reused** predominantly through charitable donation, **34.76%** was **recycled** and the remaining **64.31%** was **disposed** of to landfill or through heat treatment technologies. The pie chart beneath the table illustrates in more detail how the recycling figure is segregated into differing waste streams.

Waste stream	Outlet	Tonnage	Accuracy of data
Books	Reused	0.3590	Data provided by contractor
Card / paper from stores	Recycling	99.90	Data provided by contractor
Charitable donations	Reused	11.2649	Estimated
Chemicals and WEEE	Reused	0.0895	Data provided by contractor
Chemicals and WEEE	Recycling	18.938	Data provided by contractor
Chemicals and WEEE	Disposed	7.9730	Data provided by contractor
Computer equipment	Reused	1.6990	Data provided by contractor
Computer equipment	Recycled	18.2864	Data provided by contractor
Computer equipment	Disposed / Energy recovery	0.283	Data provided by contractor
Food	Recycled	11.451	Data provided by contractor
Garden waste	Recycled	135.14	Data provided by contractor
Glass	Recycled	0.04	Data provided by contractor
General waste	Disposal	918.984	Data provided by contractor
Items reused internally	Reused	0.1050	Estimated
Paper waste from consoles	Recycled	163.729	Data provided by contractor
Scrap metal	Recycled	26.50	Data provided by contractor
Textiles	Recycled	3.0292	Data provided by contractor
Wood	Recycled	24.16	Data provided by contractor
Figures shown are in tonnes		<b>Total waste produced</b>	<b>1441.93</b>

**Pie chart illustrating recycle composition (figures in percentage)**



**Target performance comparison against previous years (figures are shown in tonnes)**

Target (shown in parenthesis below)	Performance for August 2010 to July 2011	Waste arisings	Performance for August 2009 to July 2010	Waste arisings	Performance for August 2008 to July 2009	Waste arisings	Performance for August 2007 to July 2008	Waste arisings	Performance for August 2006 to July 2007	Waste arisings
Reuse (2%)	0.94%	13.517	1.58%	25.139	1.39%	25.35	1%	15.54	0%	1.99
Recycle (45%)	34.76%	501.18	35.99%	572.845	41.95%	766.58	36%	694.69	18%	280.7
Waste disposal	64.31%	927.24	62.43%	993.562	56.66%	1035.22	63%	1228.8	82%	1256.91

<sup>1</sup> This figures does not include wastes arisings from clinical and sanitary waste collections; those produced through construction projects; the glass, plastic and cans recycled through the local authority recycling points; or any food waste that gets deposited to sewer. It also does not include any waste arisings associated with the Rowett Institute.

## Waste stream information and cost trends

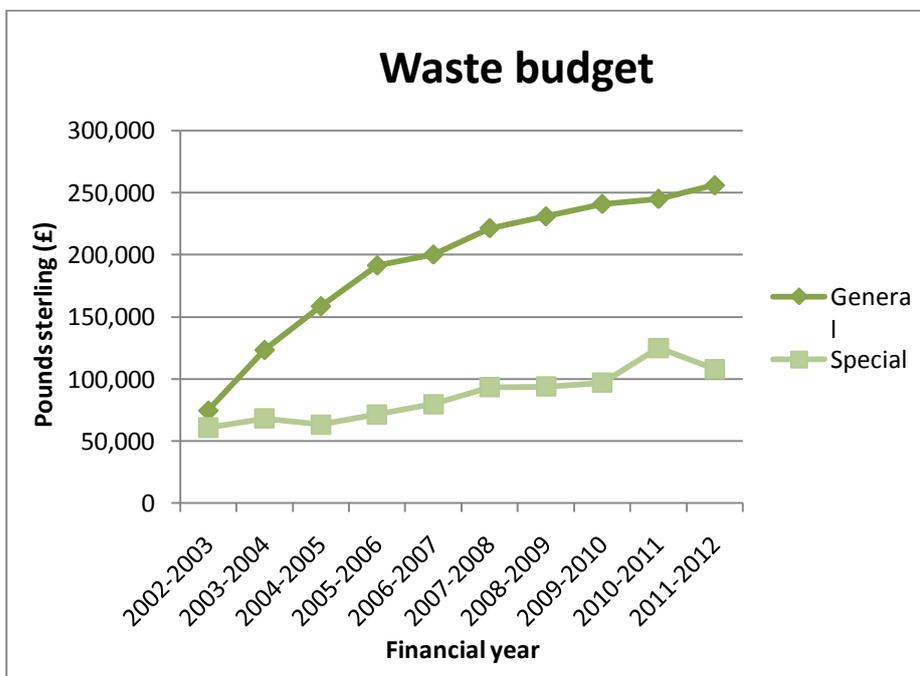
### Contractors used on site

The table below illustrates the contractors used to reuse, recycle, dispose and treat wastes produced as part of University operations during the last financial year.

Waste stream	Waste contractor
Books	Oxfam
Cardboard recycling	Total Waste Management Alliance
Chemicals and WEEE waste	Enviroco
Clinical waste collections at Foresterhill	NHS Grampian (contracting Healthcare Environmental Services)
Clinical waste collections at Old Aberdeen	Healthcare Environmental Services
Computer equipment for reuse only	Reusing IT
Computer equipment for reuse and recycling	TES-AMM
Confidential and non-confidential paper recycling	Shred-it (North East) Ltd
Food waste	Keenan Recycling Ltd
Furniture	New Hope Trust / Creative Waste Exchange
General waste disposal	Total Waste Management Alliance / Highland Council
Glass bottles	Aberdeen City Council <sup>2</sup>
Plastic bottles	Aberdeen City Council <sup>3</sup>
Recyclate through recycling points	Aberdeen City Council
Sanitary waste collections	Cannon Hygiene
Scrap metal	Panda Rosa
Textiles	Nathans Wastesavers / New Hope Trust
Tip boxes	Labwaste

### Cost trends

The chart below illustrates budget allocation for waste management since the financial period 2002 – 2003. It demonstrates increasing costs associated with general waste management, some of the rise indicated is due to



increased collections as the University develops new work which produces waste or a new building becomes operational. This trend line is unlikely to see a downturn as the landfill tax escalator is applied annually and rises in transportation and labour costs continue. The slight reduction in costs for specialised waste is simply associated with less of this material being offered for disposal. The implementation of zero waste will undoubtedly bring further costs as Scotland aspires to reach higher recovery rates and reduce the amount of waste disposed of to landfill. To achieve these it is envisaged that we

will have to co-mingle recyclate and pay for offsite segregation. The implications of banning food waste to landfill may also result in increased collection costs.

<sup>2</sup> There is no collection for glass bottles. Through agreement with Aberdeen City Council, Campus Services staff can decant glass bottles into the recycling points at Crombie and Hillhead.

<sup>3</sup> There is no collection for plastic bottles. Through agreement with Aberdeen City Council, Campus Services staff can decant plastic bottles into the recycling points at Crombie and Hillhead.

## Charitable donation

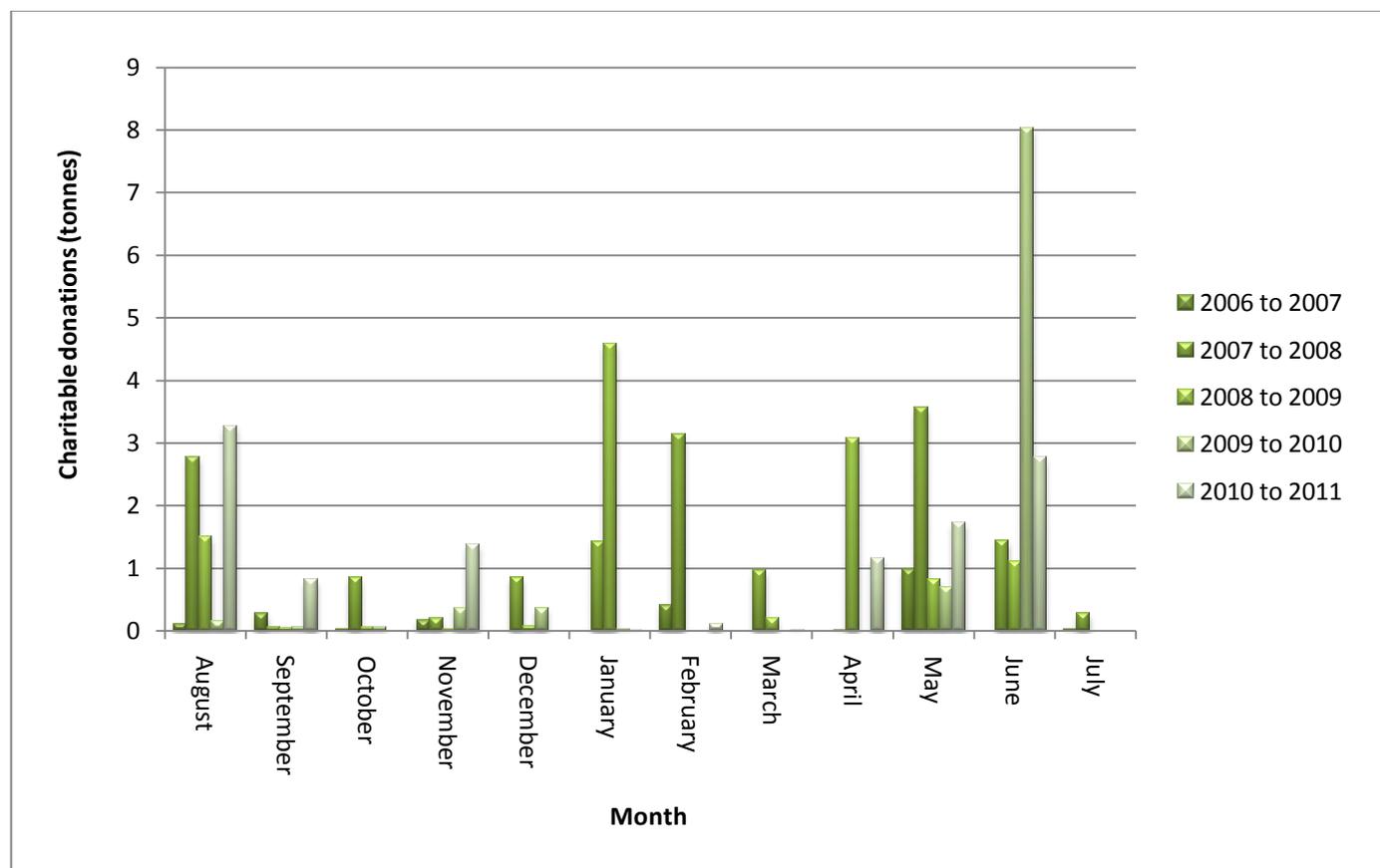
For financial period 2010 – 2011 charitable donations have increased slightly from the previous reporting period. The peak collecting months during this year are August and June. The high volume donated during August was due to clearance of the Butchart building and upgrade of classroom computers, as well as donations of curtains and pallets. Similarly in June, further computer upgrades coincided with clearances within the Fraser Noble building and end of term. Reusing IT and the New Hope Trust were the major benefactors of these items.

Other items donated comprise mainly of furniture and metal shelving. The Creative Waste Exchange who has in the past accepted items has limited the stock it collects and this has resulted in fewer items going for charitable reuse external to the University.

Month	Period 2006 to 2007	Period 2007 to 2008	Period 2008 to 2009	Period 2009 to 2010	Period 2010 to 2011
August	0.1068	2.77	1.4876	0.151	3.2685
September	0.2702	0.06	0.05	0.06	0.821
October	0.0284	0.86	0.057	0.055	0
November	0.1656	0.2	0.03	0.36	1.378
December	0	0.85	0.075	0.355	0
January	0	1.41	4.58	0.025	0.01
February	0.4124	3.14	0	0	0.11
March	0	0.96	0.205	0	0.015
April	0	0.02	3.085	0	1.1555
May	0.9742	3.56	0.8225	0.684	1.72915
June	0	1.43	1.091	8.0137	2.7777
July	0.03	0.28	0	0	0
<b>Total</b>	<b>1.9876</b>	<b>15.54</b>	<b>11.4831</b>	<b>9.7037</b>	<b>11.2649</b>

Figures shown are in tonnes

### Comparison of charitable donations during 2010 – 2011 compared to previous years



## Chemicals and WEEE

The highest months for chemical and WEEE production coincide with the bi-annual chemical and WEEE collections scheduled for January and June / July time. Throughout the remainder of the year there are ad hoc collections of batteries from Bedford Road, oily rags from Uniprint and small quantities of WEEE from Campus Services operations, with a higher than usual collection in February.

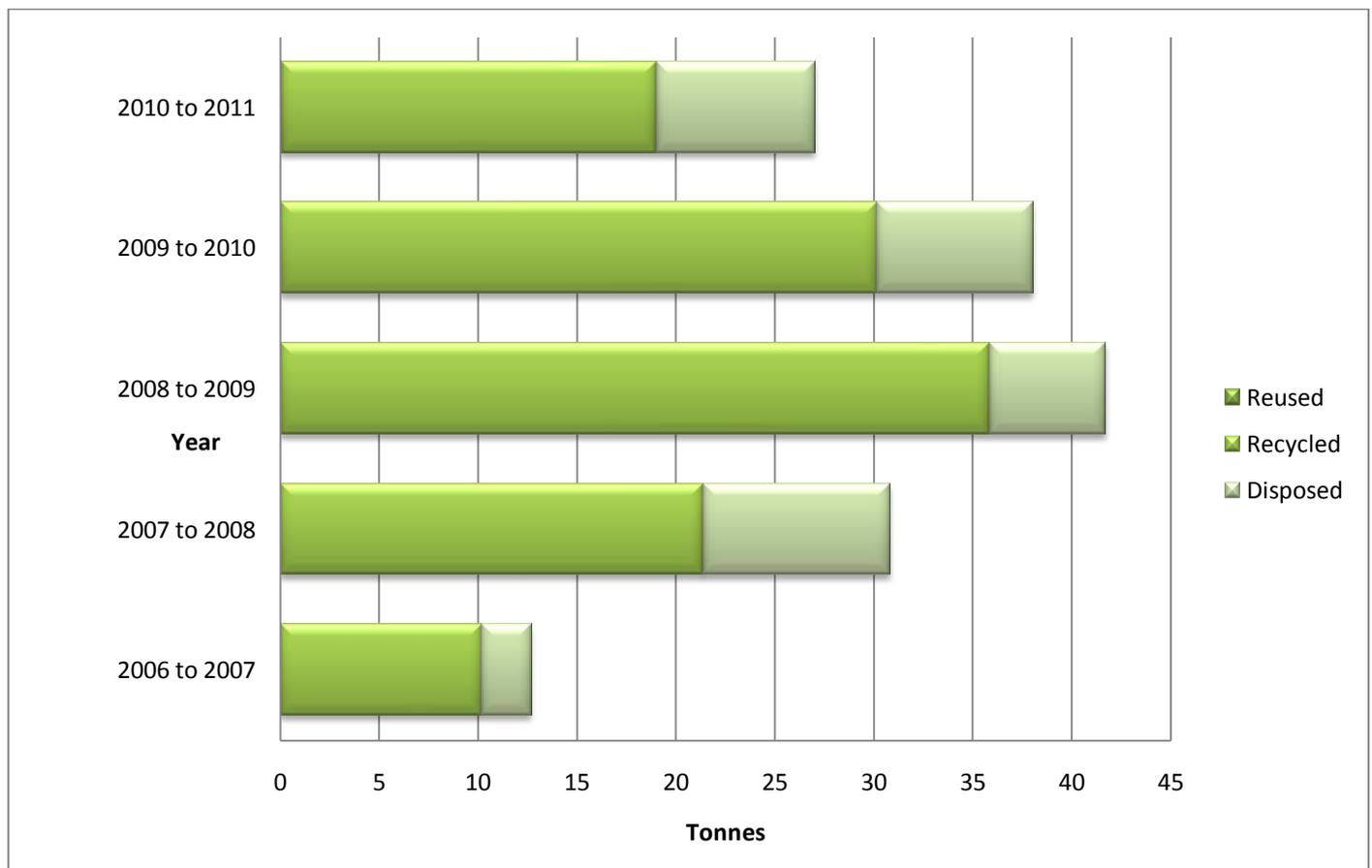
The majority of wastes produced during these collections is recycled at an offsite waste treatment facility into new oil or chemical products, or broken down into constituent parts for material recovery.

This period produced the second smallest amount of chemicals and WEEE collected compared to the previous four years.

Month	Period 2006 to 2007 <sup>4</sup>		Period 2007 to 2008		Period 2008 to 2009		Period 2009 to 2010		Period 2010 to 2011		
	Recycled	Disposed	Recycled	Disposed	Recycled	Disposed	Recycled	Disposed	Reused	Recycled	Disposed
August	0	0	0.5	0.015	0	0.02	0.005	0	0	0	0
September	0	0	0.12	0	3.72	0.345	1.3	0.5	0	1.028	0
October	0	0	3.8	0.31	0	0.02	1.2	1	0	0.318	0
November	0	0	0	0	1.1	0.02	1.75	0.65	0	0	0
December	0	0	0.25	0.07	2.48	0	0	0.015	0	0	0
January	0	0	8.295	1.945	7.566	0.9411	3.15	1.8	0	5.039	3.043
February	0	0	0	0.01	4.86	2.13	8.76	0.54	0	3.479	0
March	0	0	0	0.07	0	0	0	0.02	0	0.025	0
April	0	0	1.86	0.02	1.185	0	0.5	0	0	0	0
May	0	0	0.55	0	0	0	0	0	0	2.28	0
June	0.12	0.025	5.99	6.98	0	0.015	0	0.8	0	0.718	0
July	10.04	2.49	0	0	14.911	2.364	13.494	2.53	0.0895	6.051	4.93
Sub-total	10.16	2.515	21.365	9.42	35.822	5.8551	30.159	7.855	0.0895	18.938	7.973
Total	12.675		30.785		41.677		38.014			27.005	

Figures shown are in tonnes

### Comparison of waste chemicals and WEEE produced during 2010 – 2011 compared to previous years



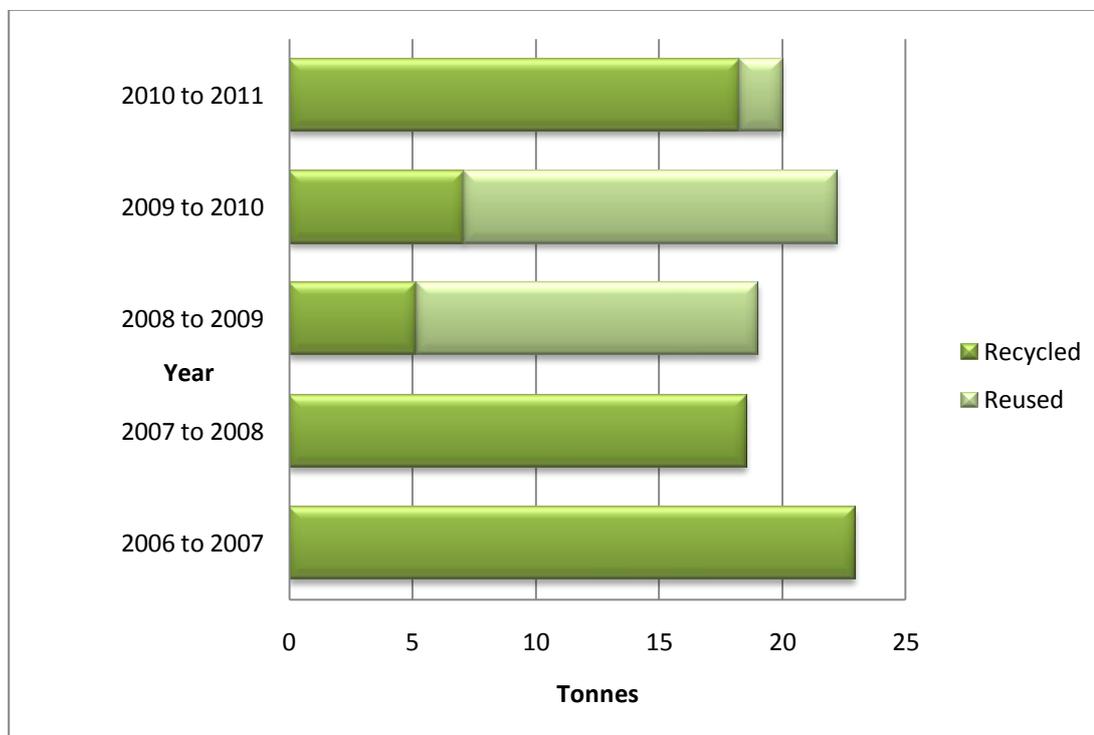
## Computing equipment

The amount of computing equipment disposed of has remained relatively static over the reporting period, with the amounts sent for recycling dependent upon the value of the commodities being provided. Peaks coincide loosely with classroom replacements. It is important to note that this data does not include the equipment donated to Reusing IT; this is reflected in the charitable donations waste arisings figures.

Month	Period 2006 to 2007 <sup>5</sup>		Period 2007 to 2008		Period 2008 to 2009		Period 2009 to 2010		Period 2010 to 2011		
	Recycled	Recycled	Reused	Recycled	Reused	Recycled	Reused	Recycled	EfW <sup>6</sup>	Disposed	
August	1.485	1.241	3.624	0.389	0.520	0.083	0.127	0.926	0.006	0.006	
September	2.498	1.083	0.989	0.225	1.952	0.054	0.029	0.828	0.003	0.008	
October	1.146	2.508	0.757	0.211	0.000	0.000	0.097	1.332	0.006	0.013	
November	2.493	2.4622	3.442	0.475	0.050	0.815	0.089	1.459	0.006	0.013	
December	2.762	2.4385	0.000	0.000	1.530	0.160	0.000	0.000	0.000	0.000	
January	2.138	0.999	0.000	0.000	3.115	0.628	0.000	0.796	0.003	0.009	
February	0	0	0.659	0.143	2.289	1.090	0.000	2.6983	0.0195	0.0233	
March	1.259	2.197	0.270	0.647	1.390	0.336	0.504	3.918	0.012	0.064	
April	2.844	1.319	1.504	2.375	0.000	0.000	0.000	0.978	0.005	0.007	
May	1.135	0.918	0.494	0.199	1.420	1.631	0.211	1.157	0.004	0.013	
June	2.839	2.132	2.132	0.494	2.065	2.045	0.276	2.343	0.012	0.023	
July	2.342	1.233	0.000	0.000	0.805	0.235	0.366	1.850	0.011	0.015	
<b>Sub-total</b>			<b>13.870</b>	<b>5.158</b>	<b>15.136</b>	<b>7.077</b>	<b>1.6990</b>	<b>18.2864</b>	<b>0.0878</b>	<b>0.1949</b>	
<b>Total</b>	<b>22.941</b>	<b>18.5307</b>	<b>19.028</b>		<b>22.213</b>			<b>20.2681</b>			

Figures shown are in tonnes

### Comparison of computer waste reused and recycled compared to previous years



<sup>5</sup> During 2006 to 2008 the contractor used only offered recycling as an option, therefore no data for reuse

<sup>6</sup> EfW represents Energy from Waste

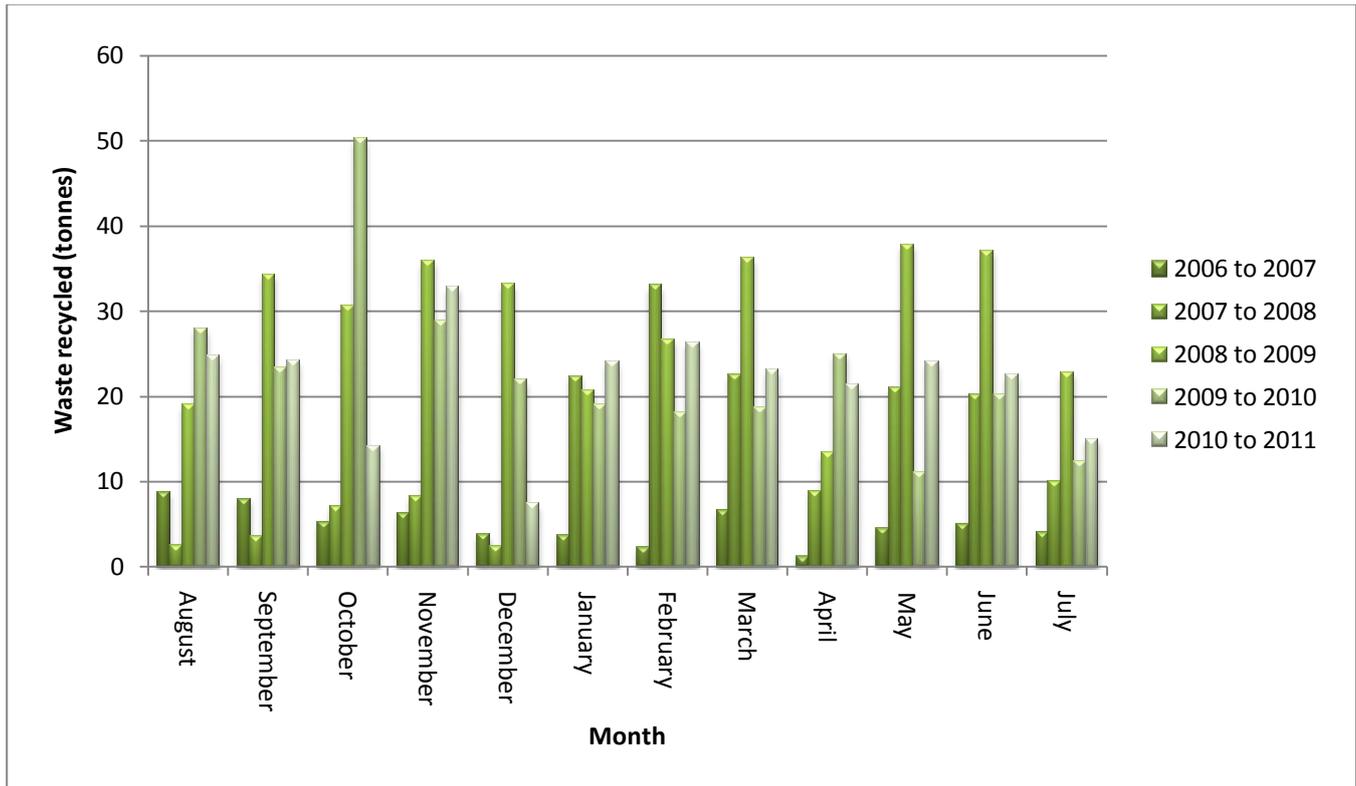
## General waste and recyclate collected by the main waste contractor

The amount of general waste disposed of to landfill during the last financial period was 918.984 tonnes. The amount of waste recycled through the main contractor during this period was 259.244 tonnes. The table below illustrates what wastes are produced where on campus relative to main contractor collections. Hillhead halls, the Hub, IMS and the MRF are the main producers on campus.

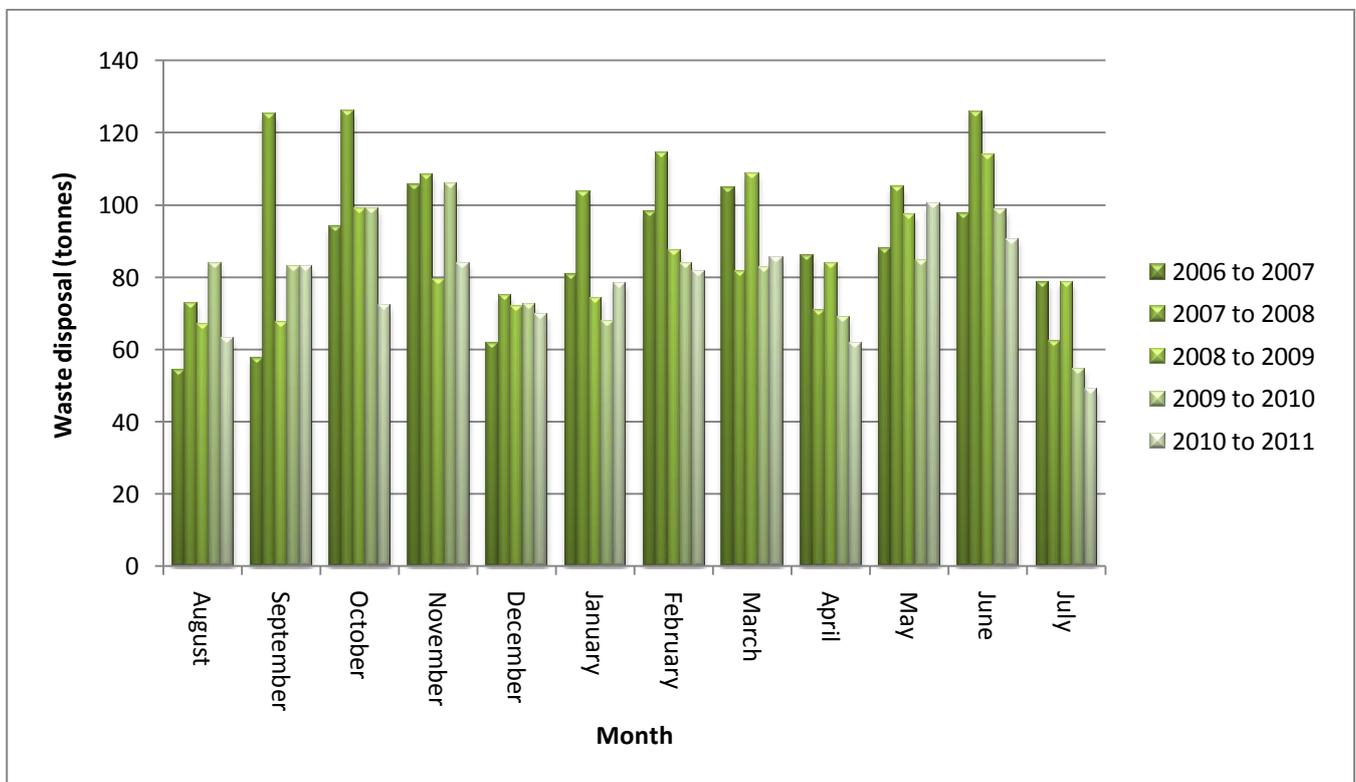
Please note that the table below only represents data from the main contractor and should not be seen as a complete figure for waste production from each of the locations.

Location	Waste stream				
	Glass	Wood	Cardboard	Garden waste	General waste
Balgownie	0.000	0.000	0.000	0.000	4.192
Bedford Road	0.000	15.460	1.425	132.320	42.450
Butchart	0.000	1.160	2.403	0.000	13.142
Chaplaincy	0.000	0.000	0.000	0.000	0.979
College Bounds	0.000	0.000	0.000	0.000	1.958
Cornhill	0.000	0.000	0.000	0.000	1.017
Crombie / Zeste	0.000	0.000	3.965	0.000	25.403
Crombie RP	0.000	0.000	0.000	0.000	4.240
Dunbar	0.000	0.000	0.653	0.000	3.682
Elphinstone Hall	0.000	0.000	0.000	0.000	10.714
Elphinstone Road halls	0.000	0.000	0.000	0.000	21.222
Fraser Noble	0.000	0.000	0.526	0.000	22.204
Hillhead Centre	0.000	0.000	0.000	2.820	1.864
Hillhead Halls	0.000	4.960	2.430	0.000	260.590
Hub	0.000	0.000	27.380	0.000	149.950
IMS	0.020	0.000	24.845	0.000	78.760
Johnston (ad hoc)	0.000	0.000	0.000	0.000	3.000
Johnston	0.000	0.000	2.960	0.000	50.190
KCCC	0.000	0.000	0.462	0.000	6.927
Kings Hall	0.000	0.000	0.000	0.000	5.976
Kings Pavillion	0.000	0.000	0.000	0.000	0.000
MacRobert skips	0.000	0.000	10.270	0.000	47.320
MacRobert wheelie bin	0.000	0.000	0.000	0.000	1.642
Marischal	0.000	0.000	0.000	0.000	1.927
Medical Physics	0.000	1.180	0.000	0.000	3.220
MRF	0.000	0.000	0.420	0.000	51.410
Meston	0.000	1.400	0.170	0.000	21.007
Newburgh	0.000	0.000	0.640	0.000	4.340
Polwarth	0.000	0.000	0.000	0.000	0.000
QML	0.020	0.000	13.250	0.000	16.460
St Machar	0.000	0.000	1.970	0.000	6.643
St Marys	0.000	0.000	0.000	0.000	2.083
Taylor	0.000	0.000	0.855	0.000	24.560
University Office	0.000	0.000	1.840	0.000	11.932
Zoology	0.000	0.000	3.440	0.000	17.980
<b>Total</b>	<b>0.04</b>	<b>24.16</b>	<b>99.904</b>	<b>135.14</b>	<b>918.984</b>

Comparison of waste recycled by the main contractor over the last five years



Comparison of waste disposed by the main contractor over the last five years



## Paper recycling

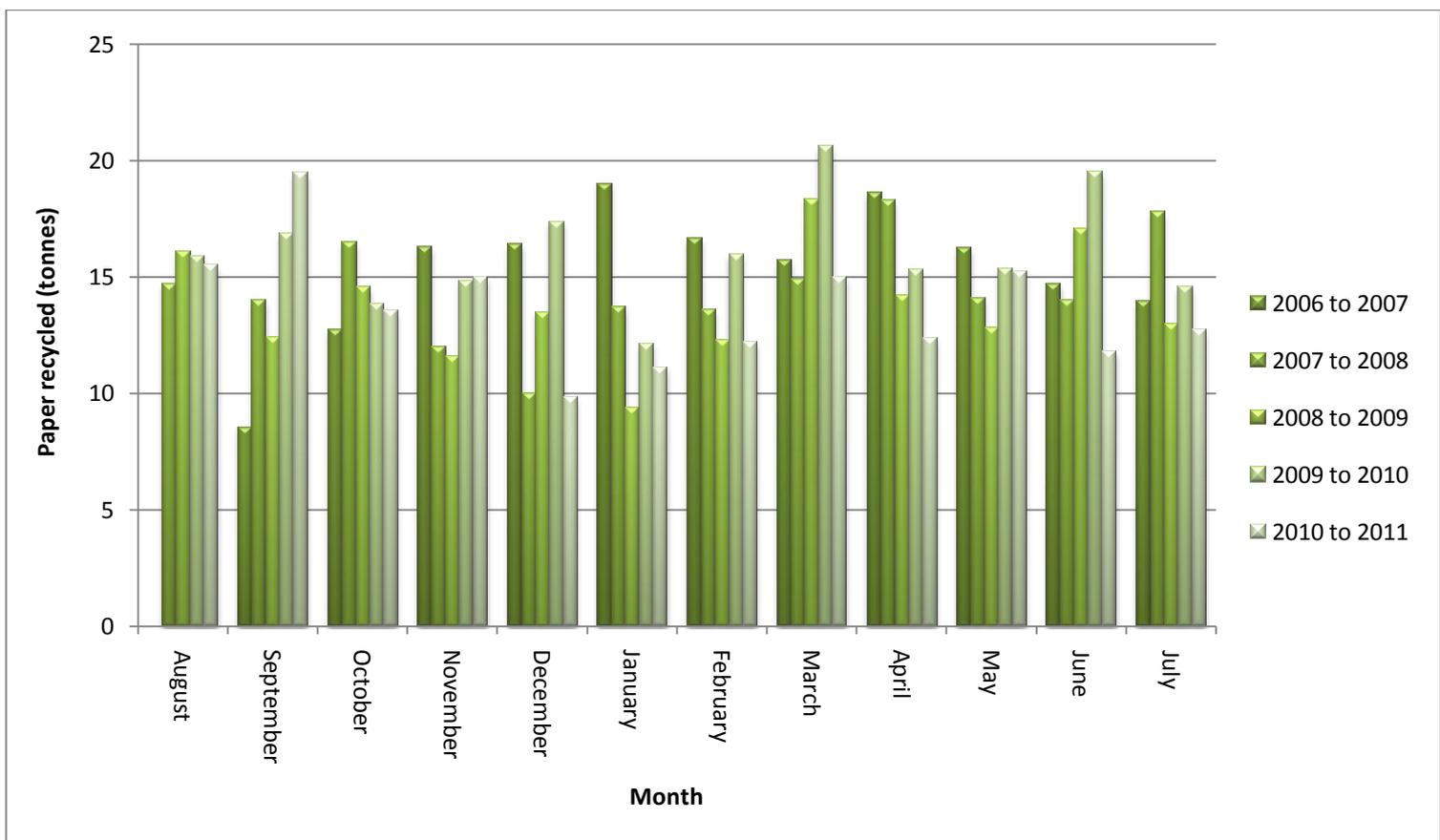
For financial period 2010 – 2011, Shred-it collected the smallest amount of paper for recycling to date, 163.7 tonnes. This averages at 13 tonnes of paper per month. During this period paper waste production peaked in September and ebbed in December.

Shred-it will continue to operate this service at the University for at least the next two years following its successful contract award.

Month	Period 2006 to 2007	Period 2007 to 2008	Period 2008 to 2009	Period 2009 to 2010	Period 2010 to 2011
August	0	14.68	16.1	15.89	15.5
September	8.515	14.007	12.4	16.89	19.46
October	12.72	16.5	14.55	13.82	13.55
November	16.296	12.005	11.6	14.8	15
December	16.425	10	13.45	17.37	9.81
January	19.022	13.7	9.4	12.125	11.1
February	16.659	13.6	12.3	15.979	12.2
March	15.7	14.9	18.35	20.6	14.99
April	18.6	18.3	14.2	15.3	12.35
May	16.25	14.1	12.8	15.35	15.24
June	14.7	14	17.1	19.5	11.79
July	13.972	17.8	13	14.55	12.73
<b>Total</b>	<b>168.859</b>	<b>173.592</b>	<b>165.25</b>	<b>192.174</b>	<b>163.729</b>

Figures shown are in tonnes

### Comparison of paper recycled during 2010 – 2011 compared to previous years



## Scrap metal

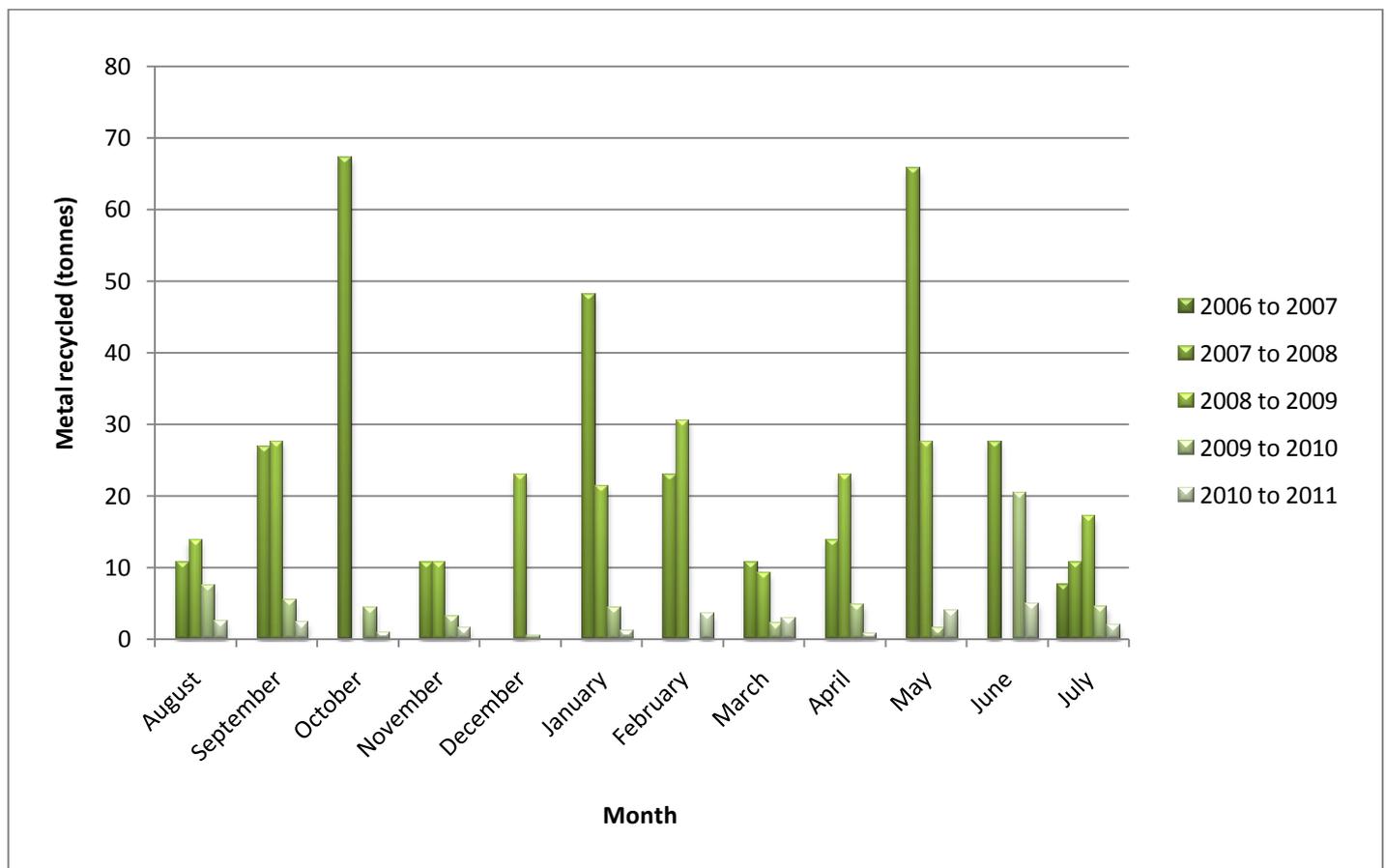
It would appear that scrap metal recycling has greatly reduced, however this is not the case. More accurate waste arisings data is now being supplied by the contractor as opposed to working out estimates based on skip volume. As seen, the former approach can be somewhat inaccurate in calculating waste arisings.

This year scrap metal was mainly produced through activities at Bedford Road, with contributions from Medical Physics, Hillhead and Fraser Noble.

Month	Period 2006 to 2007	Period 2007 to 2008	Period 2008 to 2009	Period 2009 to 2010	Period 2010 to 2011
August	0	10.700	13.760	7.520	2.5
September	0	26.760	27.524	5.420	2.3
October	0	67.280	0.000	4.360	0.98
November	0	10.700	10.704	3.180	1.58
December	0	0.000	22.937	0.420	0
January	0	48.170	21.408	4.465	1.16
February	0	22.940	30.582	0	3.46
March	0	10.700	9.175	2.180	2.84
April	0	13.760	22.937	4.820	0.82
May	0	65.750	27.524	1.520	3.94
June	0	27.520	0.000	20.42	4.94
July	7.65	10.700	17.050	4.54	1.98
<b>Total</b>	<b>7.65</b>	<b>314.980</b>	<b>203.599</b>	<b>58.845</b>	<b>26.50</b>

Figures shown are in tonnes

### Comparison of scrap metal recycled during 2010 – 2011 compared to previous years



## Textiles recycling

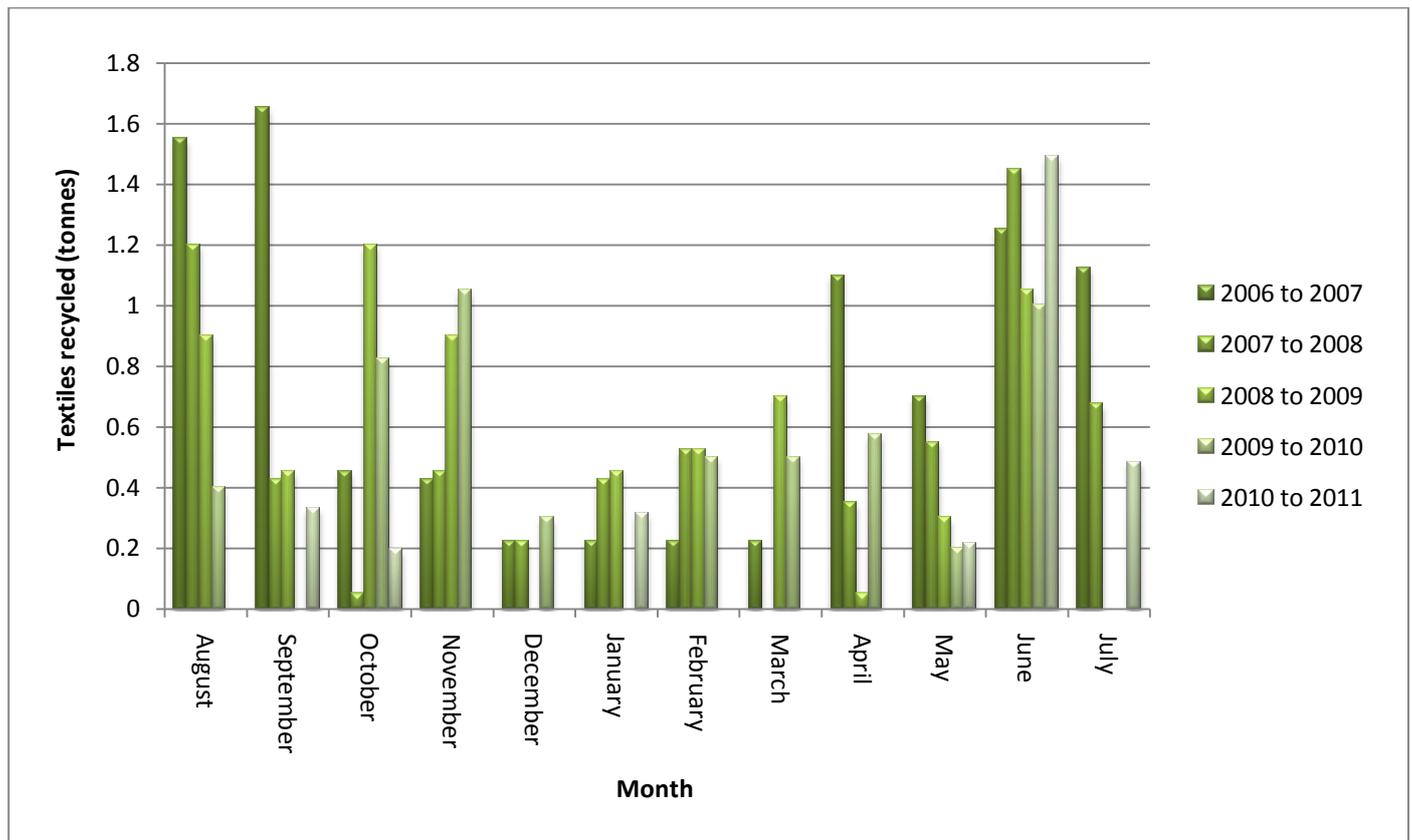
This table illustrates that the utilisation of the textiles recycling banks has seen a decline in recent years. Waste arisings peaked this past year in June and July, coinciding with end of term hall clearances.

Textiles are either reused or recycled into new products.

Month	Period 2006 to 2007	Period 2007 to 2008	Period 2008 to 2009	Period 2009 to 2010	Period 2010 to 2011
August	1.55	1.2	0.9	0.4	0
September	1.65	0.425	0.45	0	0.33
October	0.45	0.05	1.2	0.825	0.195
November	0.425	0.45	0.9	1.05	0
December	0.225	0.225	0	0.3	0
January	0.225	0.425	0.45	0	0.315
February	0.225	0.525	0.525	0.5	0
March	0.225	0	0.7	0.5	0
April	1.1	0.35	0.05	0.575	0
May	0.7	0.55	0.3	0.2	0.2149
June	1.25	1.45	1.05	1	1.4904
July	1.125	0.675	0	0	0.4839
<b>Total</b>	<b>9.15</b>	<b>6.325</b>	<b>6.525</b>	<b>5.35</b>	<b>3.0292</b>

Figures are shown in tonnes

### Comparison of textiles recycled during 2010 – 2011 compared to previous years

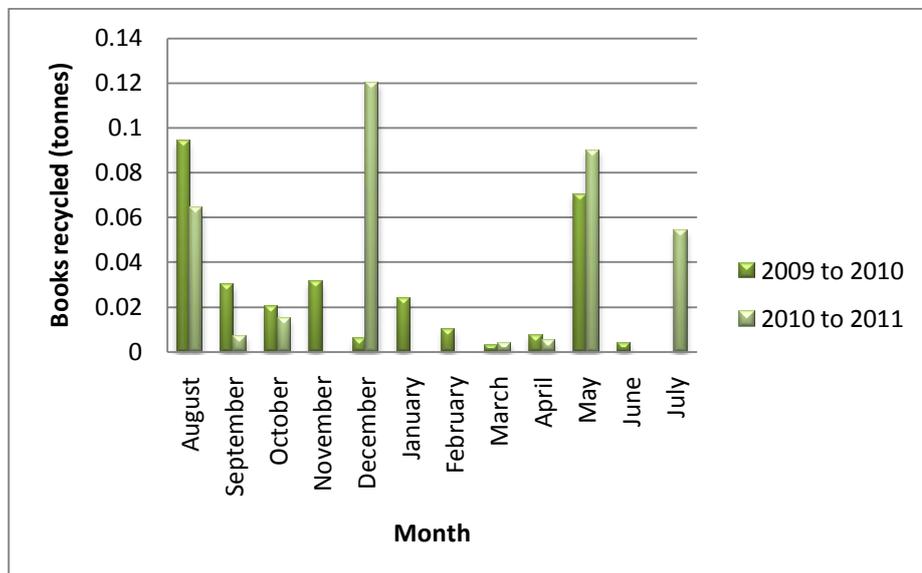


## Others

### Books

Waste arising from Oxfam book banks and ad hoc collections only started in August 2009. There has been a slight improvement with collections for this waste stream.

#### Book bank collections during financial period 2010 - 2011



### Food waste

Food waste collections commenced in May 2010. To date, collections have been extremely successful.

Month	Period 2009 to 2010	Period 2010 to 2011
August		0.125
September		0.405
October		0.960
November		0.990
December		0.220
January		0.730
February		1.720
March		1.910
April		0.925
May	0.045	1.755
June	0.160	0.955
July	0.085	0.756
<b>Total</b>	<b>0.29</b>	<b>11.451</b>

### Mattresses

The University donates most unwanted mattresses to charity for reuse, any residual that are not fit for purpose are recycled. This collection normally only happens once a year after end of term. This financial year saw 135 mattresses collected by the New Hope Trust.