



Waste Data

For period August 2011 to July 2012

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

Waste and Environmental Manager
9/1/2012

Executive Summary

Over the last financial year (August 2011 to the end of July 2012) the University produced **1611.55** tonnes of waste. The table below illustrates how this figure is compiled. Of this overall figure, **5.01%** of waste was reused predominantly through charitable donation, **34.02%** was recycled and the remaining **60.7%** was disposed of to landfill and **0.27%** through heat treatment technologies. The highlight of this reporting period is the level of reuse attained. This can be attributed solely to the decommissioning of the Queen Mother Library with major charitable donations of books, furniture and metal shelving.

In this time there has been a change to the waste policy in that it now aligns to the requirement of the Zero Waste Regulations which came into force in Scotland. Part of the increase in overall waste produced is due to the fact that the University is now being provided statistics on clinical waste disposal, which wasn't previously reported. This comprises a significant contribution to the overall waste tonnage with no alternative form of disposal other than landfill presently. Due to the nature of the University's research it is unlikely that there will be significant changes to the clinical waste volumes.

Waste stream	Outlet	Tonnage	Accuracy of data
Books	Reused	0.3755	Data provided by contractor
Cans	Recycled	0.0350	Data provided by contractor
Card / paper from stores	Recycling	93.5850	Data provided by contractor
Charitable donations	Reused	71.1018	Estimated
Chemicals and WEEE	Reused	4.1770	Data provided by contractor
Chemicals and WEEE	Recycling	25.448	Data provided by contractor
Chemicals and WEEE	Disposed	0.0100	Data provided by contractor
Clinical Waste	Disposed	108.324	Data provided by contractor
Computer equipment	Reused	3.9220	Data provided by contractor
Computer equipment	Recycled	28.1055	Data provided by contractor
Computer equipment	Disposed / Energy recovery	0.479	Data provided by contractor
Food	Recycled	14.6165	Data provided by contractor
Garden waste	Recycled	158.9800	Data provided by contractor
Glass	Recycled	0.8600	Data provided by contractor
General waste	Disposal	869.5090	Data provided by contractor
Items reused internally	Reused	5.3435	Estimated
Mattresses	Recycled	2.2600	Data provided by contractor
Paper waste from consoles	Recycled	126.6720	Data provided by contractor
Plastics	Recycled	2.680	Data provided by contractor
Scrap metal	Recycled	64.725	Data provided by contractor
Textiles	Recycled	2.1055	Data provided by contractor
Wood	Recycled	28.240	Data provided by contractor
Figures shown are in tonnes	Total waste produced	1611.55	

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

	August 2011 to July 2012	Waste arisings (tonnes)	August 2010 to July 2011	Waste arisings (tonnes)	August 2009 to July 2010	Waste arisings (tonnes)	August 2008 to July 2009	Waste arisings (tonnes)	August 2007 to July 2008	Waste arisings (tonnes)	August 2006 to July 2007	Waste arisings (tonnes)
Reuse	5.01%	80.74	0.94%	13.517	1.58%	25.139	1.39%	25.35	1%	15.54	0%	1.99
Recycle	34.02%	548.31	34.76%	501.18	35.99%	572.845	41.95%	766.58	36%	694.69	18%	280.7
Energy from waste	0.27%	4.29	-	-	-	-	-	-	-	-	-	-
Waste disposal	60.7%	978.21	64.31%	927.24	62.43%	993.562	56.66%	1035.22	63%	1228.8	82%	1256.91

Waste stream information and cost trends

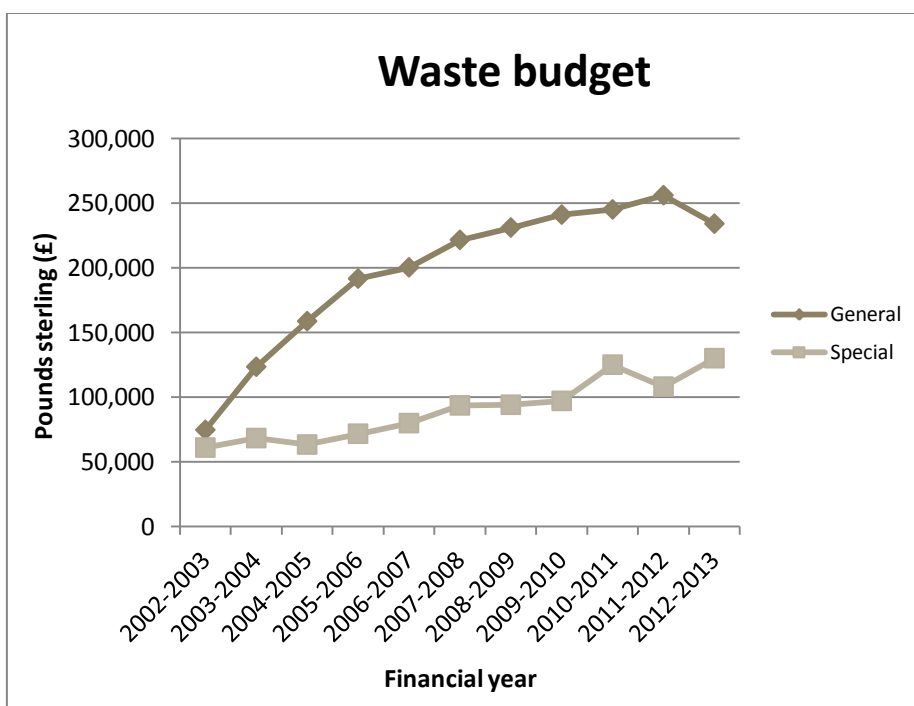
Contractors used on site

The table below shows the contractors used to treat wastes produced as part of University operations.

Waste stream	Waste contractor
Books	Oxfam
Cardboard recycling	Total Waste Management Alliance / Highland Council
Chemicals and WEEE waste	Enviroco / Veolia
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
General waste disposal	Total Waste Management Alliance / Highland Council
Glass bottles	Aberdeen City Council ¹ / Highland Council
Glass sheet	Total Waste Management Alliance
Mattresses	Total Waste Management Alliance
Plastic (mixed)	Total Waste Management Alliance
Plastic bottles	Aberdeen City Council ² / Highland Council
Recyclate through recycling points	Aberdeen City Council
Sanitary waste collections	Cannon Hygiene
Scrap metal	Panda Rosa / Highland Council
Textiles	New Hope Trust
Tip boxes	Labwaste
Wood	Total Waste Management Alliance

Cost trends

The chart below illustrates budget allocation for waste management since the financial period 2002 – 2003. The trend for both general and special waste costs shows an overall increase year on year. This trend line is unlikely to



see significant downturns as the landfill tax escalator is applied annually and rises as transportation and labour costs continue. The dip in the general waste cost is due to the fact that the rollout of campus-wide food collection was no longer a requirement this year. 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 this dry mixed recyclate comingled collections are envisaged with cost for offsite segregation.

¹ During this reporting period there was 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.

² During this reporting period there was 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.

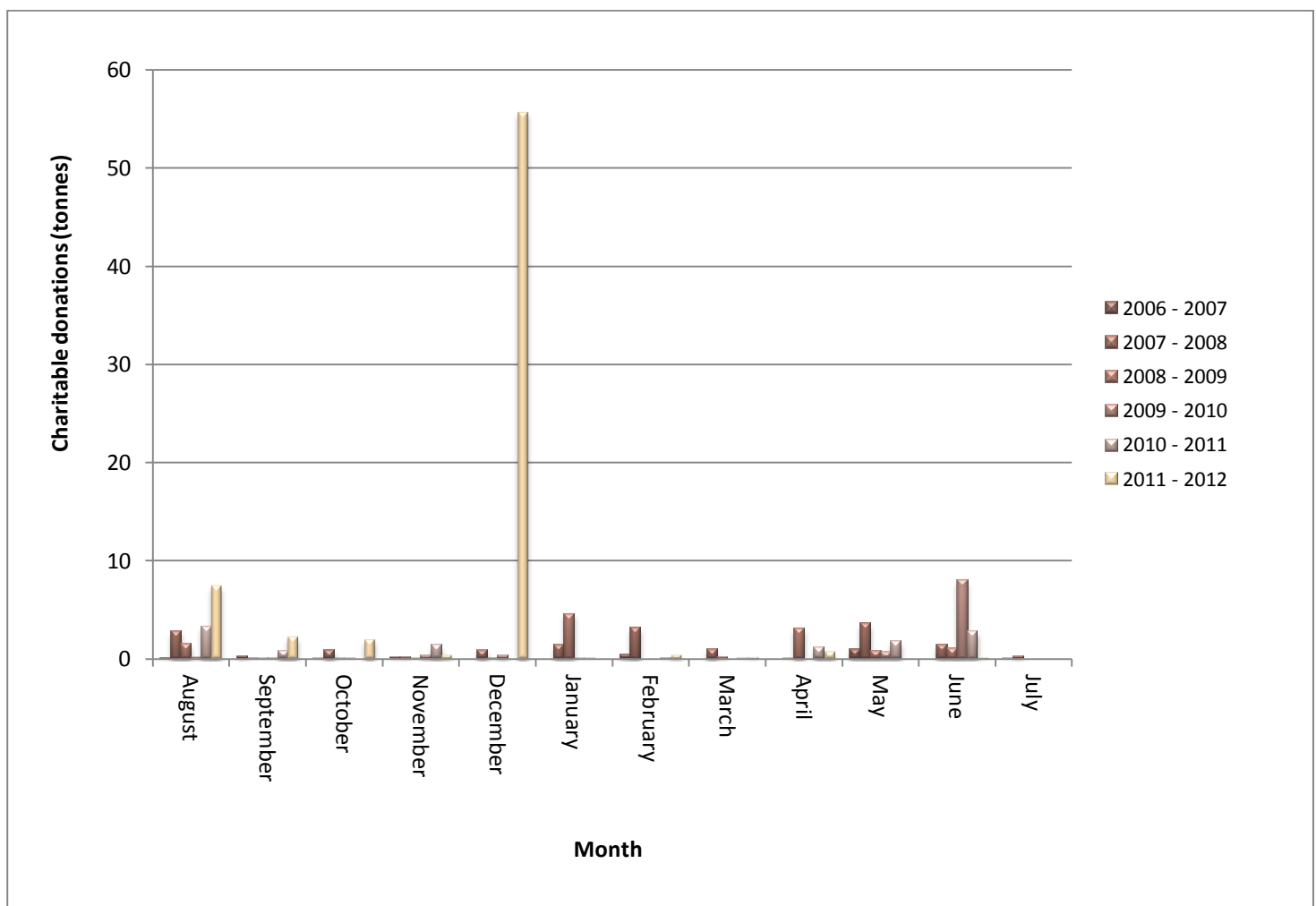
Charitable donation

During the reporting period there have been donations of furniture from the Medical Library to local charities, computers passed to Edinburgh based Reusing IT for use within educational projects both within Scotland and Africa, and various smaller donations associated with refurbishment projects and end of term hall clearances. The most noticeable donation was during December when a number of charities were given the opportunity to claim items following the decommissioning of the Queen Mother Library. This has seen metal shelving be used in mobile classrooms in Africa as well as orphanages in Moldova.

Month	Period 2006 to 2007	Period 2007 to 2008	Period 2008 to 2009	Period 2009 to 2010	Period 2010 to 2011	Period 2011 to 2012
August	0.1068	2.77	1.4876	0.151	3.2685	7.4629
September	0.2702	0.06	0.05	0.06	0.821	2.2585
October	0.0284	0.86	0.057	0.055	0	1.968
November	0.1656	0.2	0.03	0.36	1.378	0.404
December	0	0.85	0.075	0.355	0	55.6532
January	0	1.41	4.58	0.025	0.01	0
February	0.4124	3.14	0	0	0.11	0.4
March	0	0.96	0.205	0	0.015	0.18
April	0	0.02	3.085	0	1.1555	0.775
May	0.9742	3.56	0.8225	0.684	1.72915	0
June	0	1.43	1.091	8.0137	2.7777	1.7875
July	0.03	0.28	0	0	0	0.2127
Total	1.9876	15.54	11.4831	9.7037	11.2649	71.1018

Figures shown are in tonnes

Comparison of charitable donations during 2011 – 2012 compared to previous years



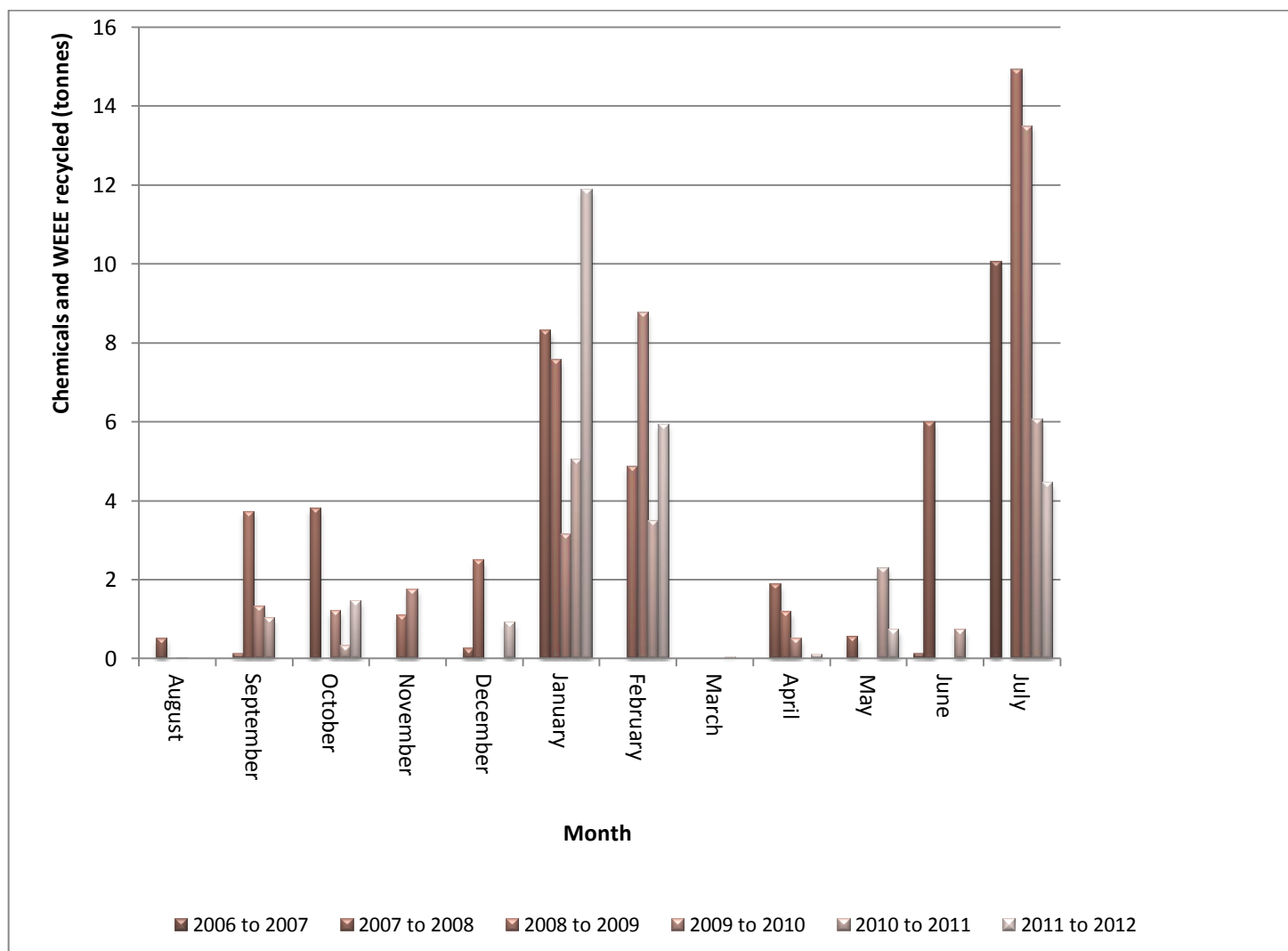
Chemicals and WEEE

Most chemicals and WEEE are collected during the bi-annual uplift, with ad hoc departmental and Campus Services uplifts co-ordinated outwith these periods.

Month	Period 2008 to 2009		Period 2009 to 2010		Period 2010 to 2011			Period 2011 to 2012		
	Recycled	Disposed	Recycled	Disposed	Reused	Recycled	Disposed	Reused	Recycled	Disposed
August	0	0.02	0.005	0	0	0	0	0	0	0
September	3.72	0.345	1.3	0.5	0	1.028	0	0	0	0
October	0	0.02	1.2	1	0	0.318	0	0	1.455	0
November	1.1	0.02	1.75	0.65	0	0	0	0	0	0
December	2.48	0	0	0.015	0	0	0	0	0.92	0
January	7.566	0.9411	3.15	1.8	0	5.039	3.043	0	11.88	0.07
February	4.86	2.13	8.76	0.54	0	3.479	0	0	5.92	0
March	0	0	0	0.02	0	0.025	0	0	0	0
April	1.185	0	0.5	0	0	0	0	0	0.1	0
May	0	0	0	0	0	2.28	0	0	0.72	0
June	0	0.015	0	0.8	0	0.718	0	0	0	0
July	14.911	2.364	13.494	2.53	0.0895	6.051	4.93	0	4.453	4.117
Sub-total	35.822	5.8551	30.159	7.855	0.0895	18.938	7.973	0	25.448	4.187
Total	41.677		38.014		27.005			29.635		

Figures shown are in tonnes

Comparison of waste chemicals and WEEE produced during 2011 – 2012 compared to previous years



Clinical waste

This is the first year that clinical waste arisings have been provided by our contractor. As such there is no baseline to report against. The addition of clinical waste data to our overall figure has caused a drop in overall recycling rates, due to the fact that all this material is either heat treated or disposed of to landfill. The figures are shown in tonnes. Overall 108.324 tonnes of clinical waste arose from University operations.

	IMS	MRF	Medical Physics	Cruickshank	Zoology	Lighthouse
August	8.343	0.479	0.042	No data	No data	No data
September	7.187	0.421	0	0.251	0.246	0.037
October	8.024	0.321	0	0.326	0.241	0
November	10.046	0.341	0	0.312	0.299	0
December	6.795	0.452	0	0.187	0.182	0
January	8.703	0.276	0.0435	0.248	0.239	0
February	8.401	0.357	0	0.251	0.243	0
March	8.302	0.508	0	0.2521	0.2525	0
April	6.225	0.236	0	0.248	0.244	0
May	8.581	0.194	0.035	0.315	0.309	0
June	7.911	0.437	0	0.189	0.249	0
July	9.59	0.331	0	0.314	0.308	0
TOTAL	98.108	4.353	0.1205	2.8931	2.8125	0.037

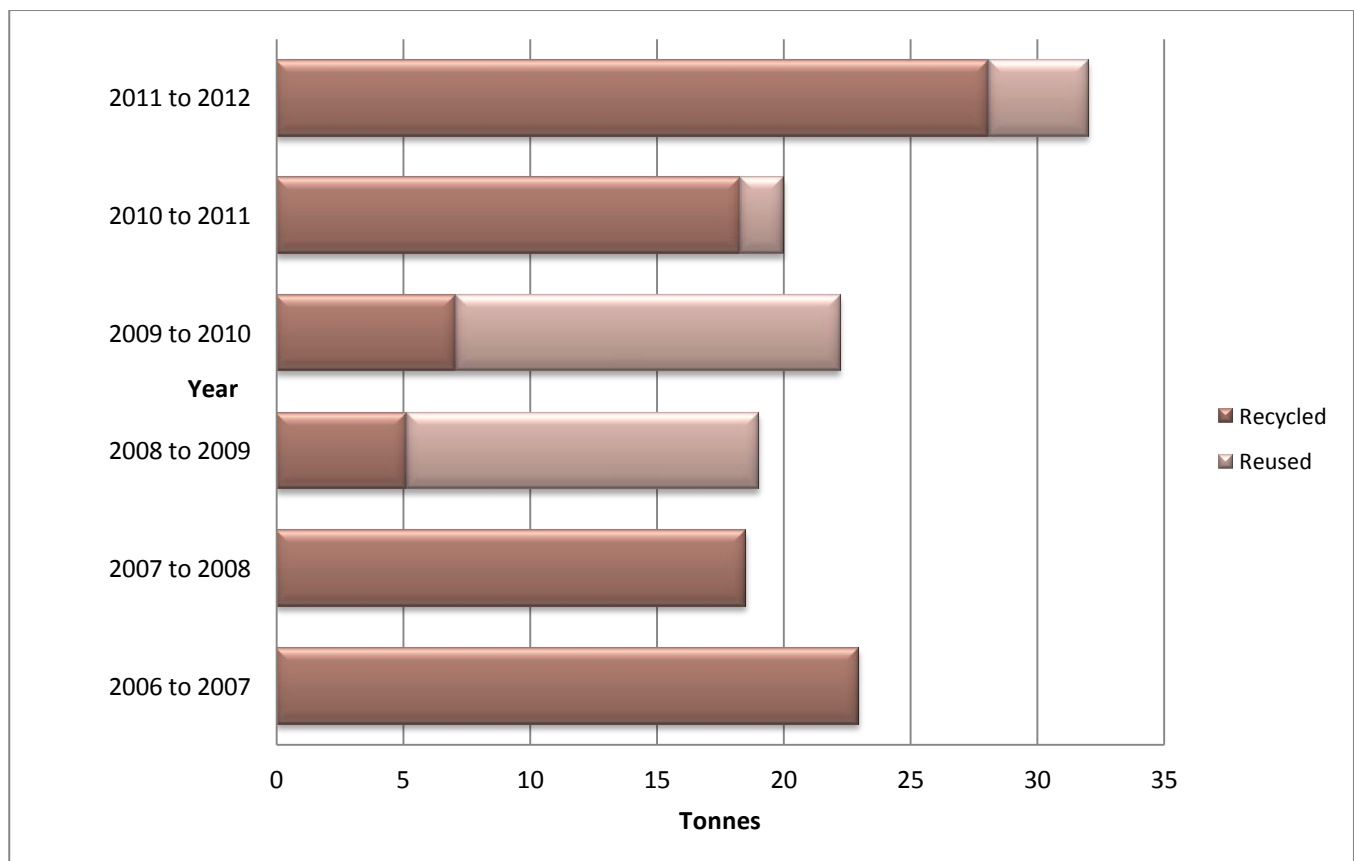
Computing equipment

This last reporting period has seen a significant increase in the volume of computing equipment disposed of. It is unclear why this is the case apart from assuming more replacement programmes than normal.

Month	Period 2008 to 2009		Period 2009 to 2010		Period 2010 to 2011				Period 2011 to 2012			
	Reuse	Recycle	Reuse	Recycle	Reuse	Recycle	EfW ³	Dispose	Reuse	Recycle	EfW	Dispose
August	3.624	0.389	0.520	0.083	0.127	0.926	0.006	0.006	0.120	1.722	0.012	0.052
September	0.989	0.225	1.952	0.054	0.029	0.828	0.003	0.008	0.497	1.619	0.007	0.022
October	0.757	0.211	0.000	0.000	0.097	1.332	0.006	0.013	0.371	6.652	0.027	0.050
November	3.442	0.475	0.050	0.815	0.089	1.459	0.006	0.013	0.535	0.441	0.002	0.008
December	0.000	0.000	1.530	0.160	0.000	0.000	0.000	0.000	0.000	5.679	0.023	0.063
January	0.000	0.000	3.115	0.628	0.000	0.796	0.003	0.009	0.000	0.000	0.000	0.000
February	0.659	0.143	2.289	1.090	0.000	2.6983	0.0195	0.0233	0.392	4.519	0.016	0.037
March	0.270	0.647	1.390	0.336	0.504	3.918	0.012	0.064	0.159	1.881	0.006	0.021
April	1.504	2.375	0.000	0.000	0.000	0.978	0.005	0.007	0.270	2.986	0.012	0.032
May	0.494	0.199	1.420	1.631	0.211	1.157	0.004	0.013	0.685	1.179	0.004	0.007
June	2.132	0.494	2.065	2.045	0.276	2.343	0.012	0.023	0.538	0.820	0.004	0.066
July	0.000	0.000	0.805	0.235	0.366	1.850	0.011	0.015	0.355	0.607	0.002	0.009
Sub-total	13.870	5.158	15.136	7.077	1.6990	18.286	0.0878	0.1949	3.922	28.106	0.113	0.366
Total	19.028		22.213		20.2681				32.506			

Figures shown are in tonnes

Comparison of computer waste reused and recycled compared to previous years



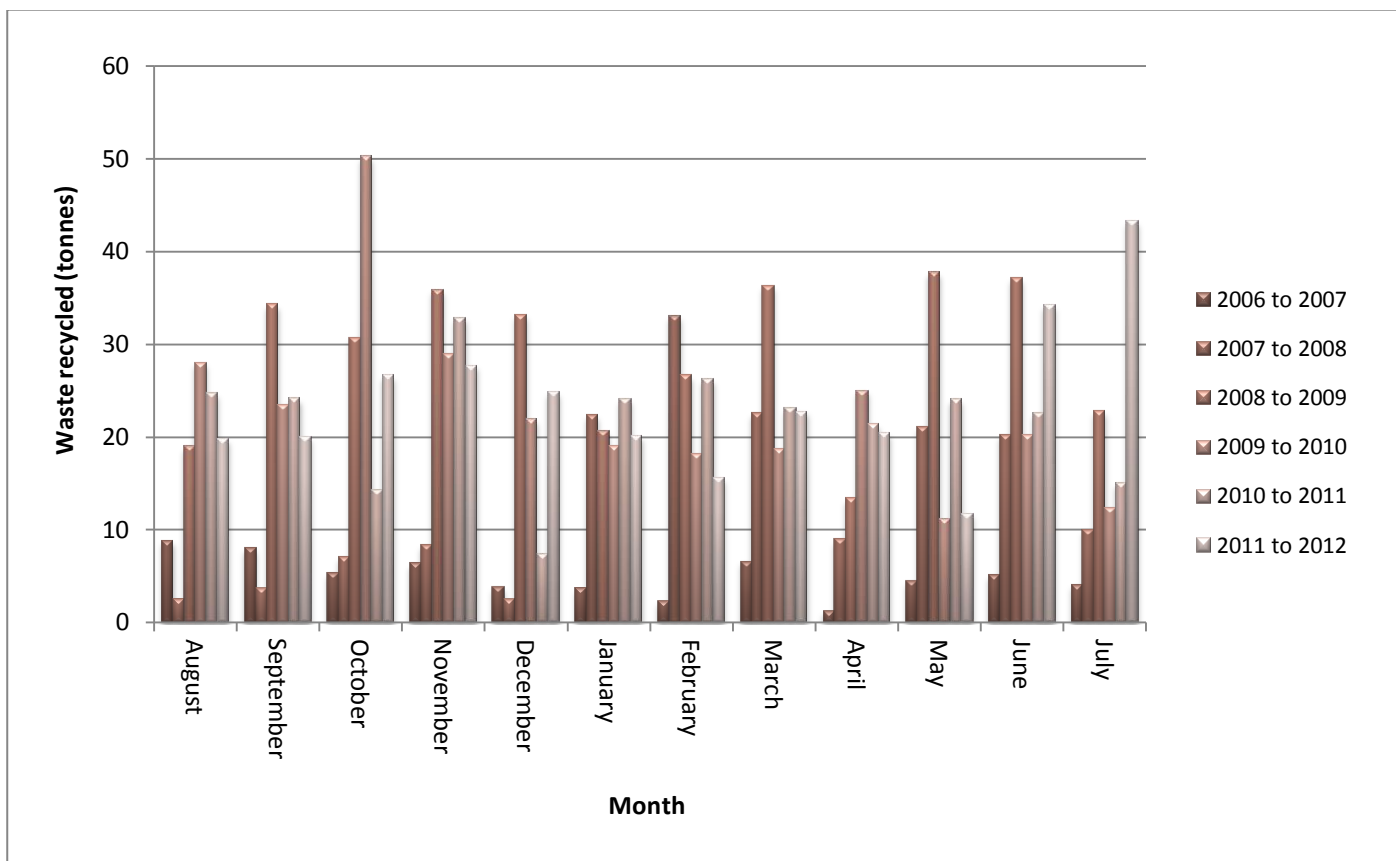
³ EfW represents Energy from Waste

General waste and recycle collected by the main waste contractor

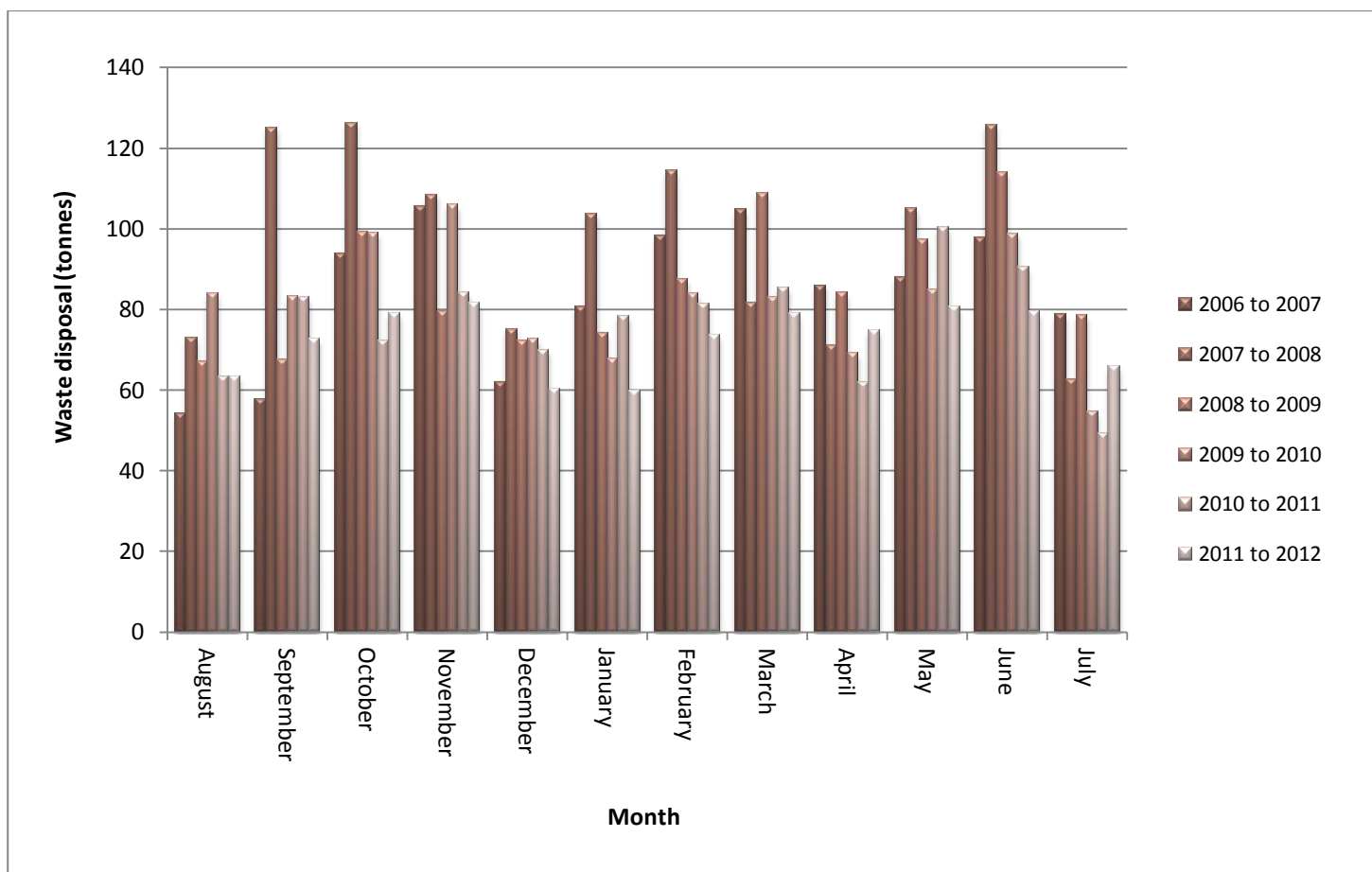
The amount of general waste disposed of to landfill during the last financial period was 869.509 tonnes. The amount of waste recycled through the main contractor during this period was 286.64 tonnes. The table below illustrates what wastes are produced where on campus relative to main contractor collections - figures are illustrated in tonnes. 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							General
	Cans	Card / Paper	Garden	Glass	Mattresses	Plastics	Wood	
Balgownie	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.463
Bedford Road	0.000	1.360	145.320	0.000	0.000	2.160	10.160	36.250
Butchart	0.000	0.075	0.000	0.000	0.000	0.005	0.000	10.360
Chaplaincy	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.983
College Bounds	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.438
Cornhill	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.901
Crombie	0.000	4.790	0.000	0.000	0.000	0.000	0.000	28.016
Crombie RP	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.752
Dunbar	0.004	0.732	0.000	0.000	0.000	0.024	0.000	3.860
Elph Hall	0.010	0.002	0.000	0.000	0.000	0.010	0.000	8.204
Elph Road Halls	0.000	0.000	0.000	0.000	0.000	0.000	0.000	27.133
Edward Wright	0.000	0.000	0.000	0.060	0.000	0.000	0.000	0.000
Fraser Noble	0.005	0.719	0.000	0.000	0.000	0.005	0.820	13.104
Health Sciences	0.000	10.760	0.000	0.000	0.000	0.000	0.000	0.000
High Street, 17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.225
Hillhead Centre	0.000	0.000	13.660	0.000	0.000	0.000	0.000	2.371
Hillhead Halls	0.000	1.660	0.000	0.000	2.260	0.000	5.260	254.100
Hub	0.000	17.595	0.000	0.000	0.000	0.035	0.000	133.580
IMS	0.007	24.968	0.000	0.000	0.000	0.015	0.000	91.120
Johnston	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
KCCC	0.000	0.510	0.000	0.000	0.000	0.000	0.000	35.360
Kings Pavilion	0.000	0.443	0.000	0.000	0.000	0.000	0.000	7.738
LSI	0.000	0.005	0.000	0.000	0.000	0.000	0.000	8.170
MacRobert skip	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MacRobert w/b	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.263
Marischal	0.000	1.920	0.000	0.000	0.000	0.000	0.000	29.710
Medical Physics	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.006
MRF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.103
Meston	0.000	0.000	0.000	0.000	0.000	0.000	2.640	2.560
Newburgh	0.000	1.000	0.000	0.000	0.000	0.000	0.000	38.510
Polwarth	0.000	1.020	0.000	0.800	0.000	0.000	0.000	22.423
St Machar	0.000	0.260	0.000	0.000	0.000	0.000	0.000	2.220
St Marys	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Taylor	0.000	15.100	0.000	0.000	0.000	0.000	7.240	27.330
University Library	0.007	4.133	0.000	0.000	0.000	0.020	0.000	9.057
University Office	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.363
Zoology	0.000	2.110	0.000	0.000	0.000	0.000	0.000	29.016
Total	0.860	28.240	93.585	2.360	0.035	2.260	158.980	869.509

Comparison of waste recycled by the main contractor over previous years



Comparison of waste disposed by the main contractor over previous years



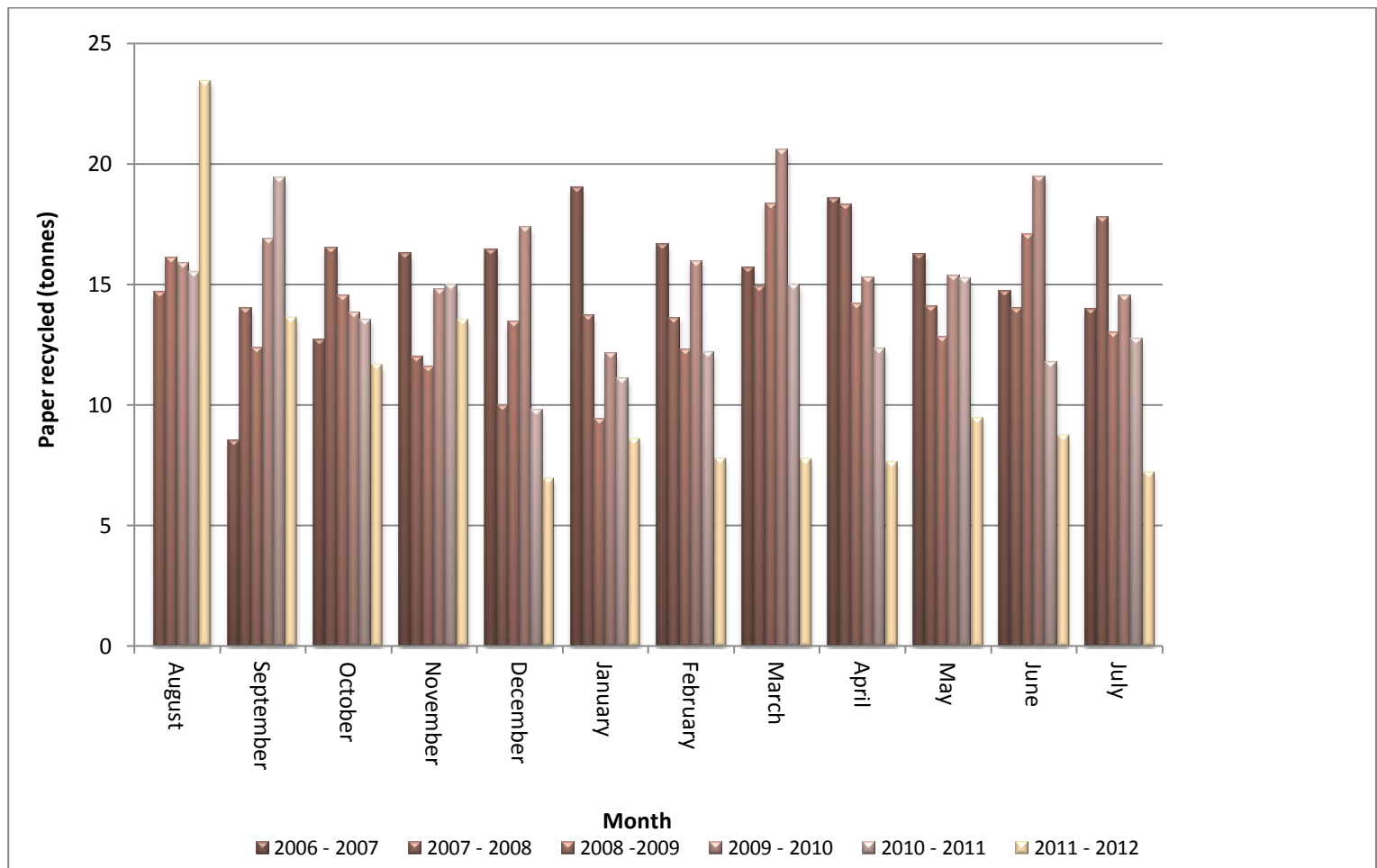
Paper recycling

Shred-it will continue to operate this service at the University for at least the next two years following its successful contract award. This year has seen a marked decline in the volume of paper recycled; however there has been an increase in the number of consoles on campus. It is envisaged that the preceding years may have witnessed numerous clear-outs inflating the baseline recycling rate, and the roll out of duplex printing through MFDs may have made a contribution to the volume of waste paper being produced.

Month	Period 2006 to 2007	Period 2007 to 2008	Period 2008 to 2009	Period 2009 to 2010	Period 2010 to 2011	Period 2011 to 2012
August	0	14.68	16.1	15.89	15.5	23.43
September	8.515	14.007	12.4	16.89	19.46	13.635
October	12.72	16.5	14.55	13.82	13.55	11.69
November	16.296	12.005	11.6	14.8	15	13.54
December	16.425	10	13.45	17.37	9.81	6.98
January	19.022	13.7	9.4	12.125	11.1	8.633
February	16.659	13.6	12.3	15.979	12.2	7.82
March	15.7	14.9	18.35	20.6	14.99	7.782
April	18.6	18.3	14.2	15.3	12.35	7.66
May	16.25	14.1	12.8	15.35	15.24	9.496
June	14.7	14	17.1	19.5	11.79	8.772
July	13.972	17.8	13	14.55	12.73	7.234
Total	168.859	173.592	165.25	192.174	163.729	126.672

Figures shown are in tonnes

Comparison of paper recycled during 2011 – 2012 compared to previous years



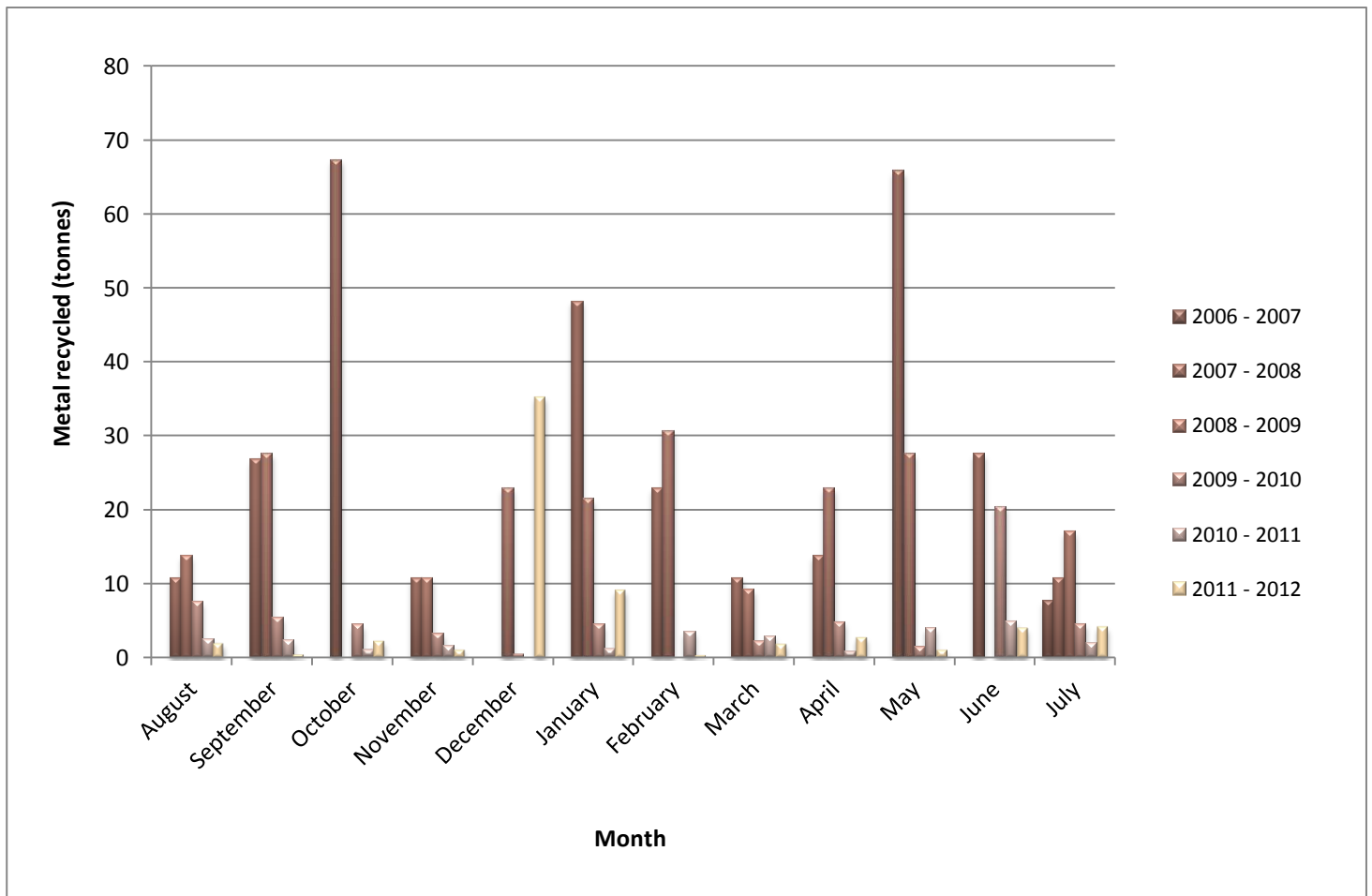
Scrap metal

This year has seen an increase in the volume of scrap metal produced, mainly due to the decommissioning of the Queen Mother Library and the disposal of its metal shelving. When interpreting the data below it would be pertinent to exclude the periods from 2006-2009 as these years were based on volume estimates and do not accurately reflect real tonnage. As such, this last financial year has seen the University recycle its largest volume of scrap metal to date.

Month	Period 2006 to 2007	Period 2007 to 2008	Period 2008 to 2009	Period 2009 to 2010	Period 2010 to 2011	Period 2011 to 2012
August	0	10.700	13.760	7.520	2.5	1.965
September	0	26.760	27.524	5.420	2.3	0.48
October	0	67.280	0.000	4.360	0.98	2.3
November	0	10.700	10.704	3.180	1.58	1.12
December	0	0.000	22.937	0.420	0	35.24
January	0	48.170	21.408	4.465	1.16	9.2
February	0	22.940	30.582	0	3.46	0.34
March	0	10.700	9.175	2.180	2.84	1.88
April	0	13.760	22.937	4.820	0.82	2.8
May	0	65.750	27.524	1.520	3.94	1.08
June	0	27.520	0.000	20.42	4.94	4.08
July	7.65	10.700	17.050	4.54	1.98	4.24
Total	7.65	314.980	203.599	58.845	26.50	64.73

Figures shown are in tonnes

Comparison of scrap metal recycled during 2011 – 2012 compared to previous years



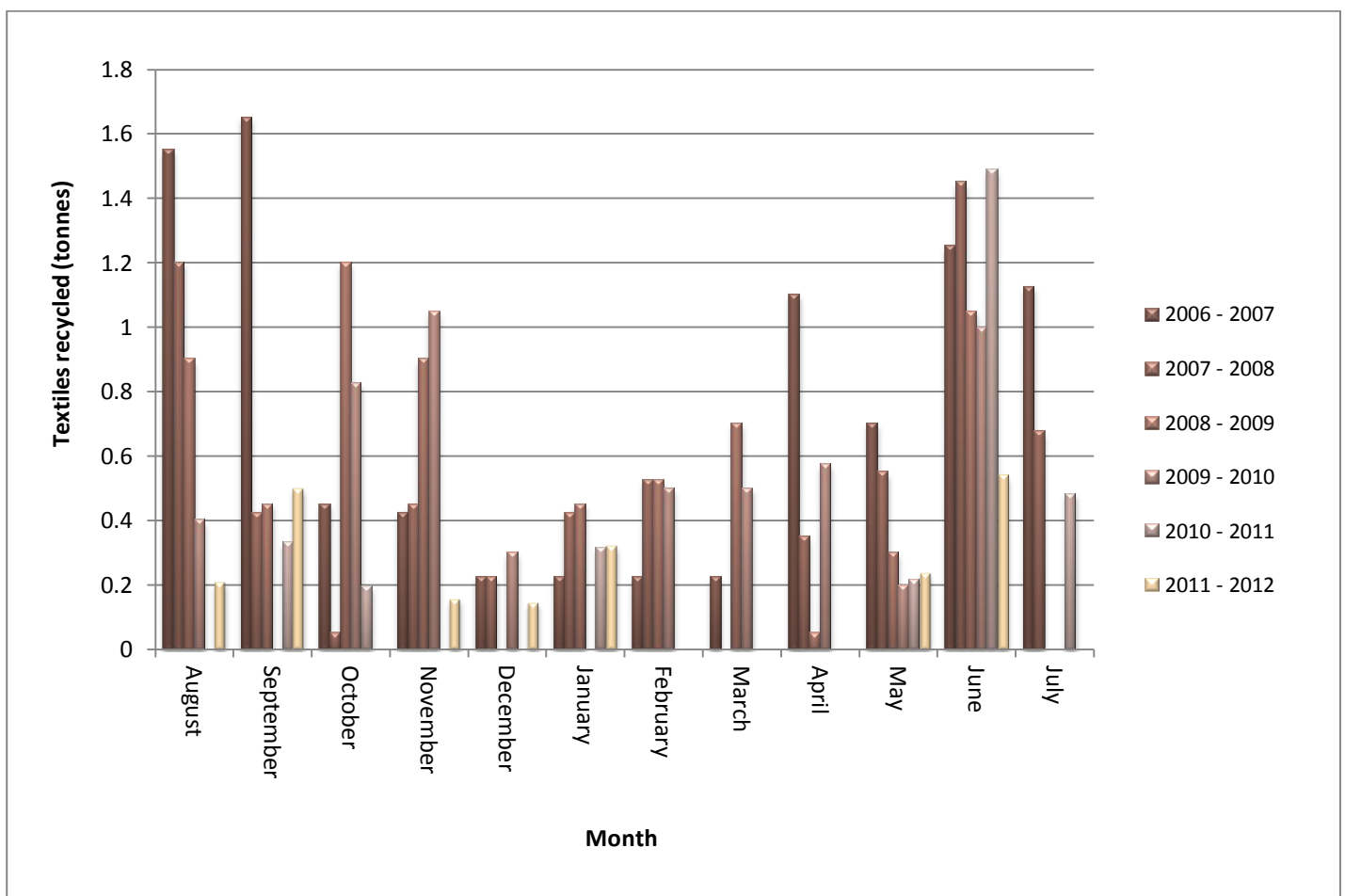
Textiles recycling

The volume of textiles this year has been the lowest recorded. This is due partially to the collection bank at Hillhead being isolated from the main recycling point. Plans are underway to relocate this bank to the central location to maximise its usage.

Month	Period 2006 to 2007	Period 2007 to 2008	Period 2008 to 2009	Period 2009 to 2010	Period 2010 to 2011	Period 2011 to 2012
August	1.55	1.2	0.9	0.4	0	0.20785
September	1.65	0.425	0.45	0	0.33	0.49715
October	0.45	0.05	1.2	0.825	0.195	0
November	0.425	0.45	0.9	1.05	0	0.1573
December	0.225	0.225	0	0.3	0	0.1461
January	0.225	0.425	0.45	0	0.315	0.3217
February	0.225	0.525	0.525	0.5	0	0
March	0.225	0	0.7	0.5	0	0
April	1.1	0.35	0.05	0.575	0	0
May	0.7	0.55	0.3	0.2	0.2149	0.236
June	1.25	1.45	1.05	1	1.4904	0.5394
July	1.125	0.675	0	0	0.4839	0
Total	9.15	6.325	6.525	5.35	3.0292	2.1055

Figures are shown in tonnes

Comparison of textiles recycled during 2011 – 2012 compared to previous years

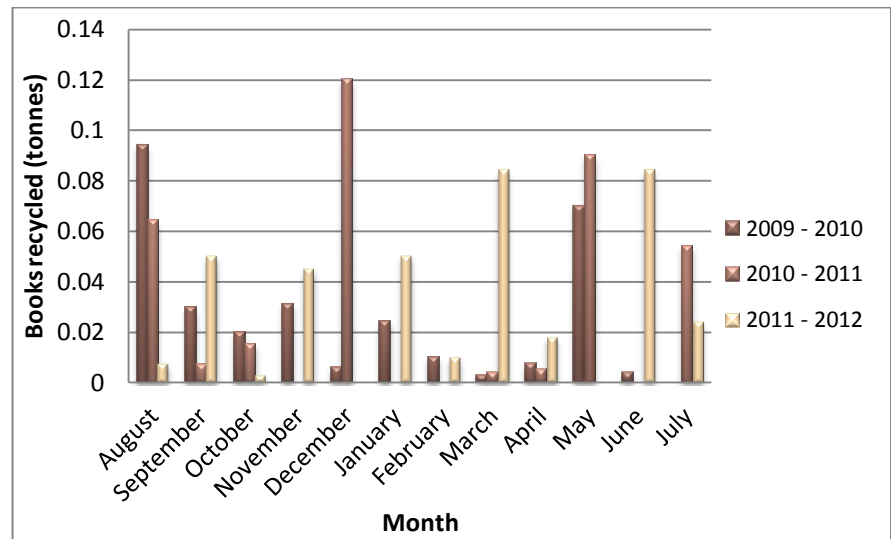


Others

Books

The overall collection of books from the book banks on campus and through ad hoc collections has remained relatively static over the reporting period compared to the previous year.

Month	Period 09/10	Period 10/11	Period 12/13
August	0.094	0.064	0.0075
September	0.03	0.007	0.05
October	0.02	0.015	0.003
November	0.031	0	0.045
December	0.006	0.12	0
January	0.024	0	0.05
February	0.01	0	0.01
March	0.003	0.004	0.084
April	0.0073	0.005	0.018
May	0.07	0.09	0
June	0.004	0	0.084
July	0	0.054	0.024
Total	0.2993	0.359	0.3755



Food waste

Food waste is collected in all catering areas and the University Office, from where it is uplifted weekly and taken to an in-vessel composting facility near Peterhead. Food waste volumes have seen an overall increase per month.

Month	Period 2009 to 2010	Period 2010 to 2011	Period 2011 to 2012
August		0.125	1.425
September		0.405	1.06
October		0.960	0.8735
November		0.990	1.34
December		0.220	1.07
January		0.730	1.385
February		1.720	1.385
March		1.910	1.358
April		0.925	0.865
May	0.045	1.755	1.5
June	0.160	0.955	1.18
July	0.085	0.756	1.175
Total	0.29	11.451	14.6165

Miscellaneous

This year the University in conjunction with Oxfam hosted a book donation event. This was for staff and students to bring in books from home for donation. In total around 6000 books were donated equating to nearly 3 tonnes. This waste arising figure cannot be attributed to University operations as this relates to waste brought in from residences only, and therefore it is recorded separately. During the beginning of June the University hosted a Waste Electrical and Electronic Equipment (WEEE) donation event to staff, students, and the wider community. The event was co-ordinated by ERP and sponsored by Apple. Running for three days the event offered people the opportunity to dispose of anything with a plug for recycling. The event was incredibly successful and saw a variety of items donated from kettles to industrial appliances; amounting to 16.26 tonnes overall. Again these waste arising figures cannot be attributed to University operations.