

The Landfill Allowance Scheme Regulations (2004) Northern Ireland (NILAS)

2008/09 Annual Report

December 2009

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This document is also available on the Northern Ireland Environment Agency's website at www.ni-environment.gov.uk/waste-home/municipal_data_reporting.htm

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Executive Summary

This report covers the fourth scheme year of the Landfill Allowance Scheme (NI) Regulations 2004 (NILAS) and summarises district council compliance with the scheme.

All 26 district councils in Northern Ireland achieved their 2008/09 landfill allowance obligations by diverting Biodegradable Municipal Waste (BMW) from landfill.

In 2008/09, the total amount of BMW which was permitted to be sent to landfill was 626,925 tonnes. The total amount of BMW reported to have been sent to landfill was 475,078 tonnes i.e. 24.22% of the 2008/9 landfill allowances were not utilised. These non-utilised allowances increased by 3.8% compared to the previous year 2007/08 (20.43%). Since the introduction of the NILAS regulations district councils, operating in three waste management groups (WMG), have collectively reduced the amount of BMW sent to landfill by 82,931 tonnes. A breakdown of the allowance utilisation of each waste management group and district council is given below:

- The Southern Waste Management Group (SWaMP2008) sent 123,800 tonnes to landfill, 27.74% less than their allocated allowances.
- The North West Regional Waste Management Group (NWRWMG) sent 89,557 tonnes of BMW to landfill, 24.65% less than their allocated allowances.
- arc21 sent 261,721 tonnes of BMW to landfill, 22.58% less than their allocated allowances.

Two councils Castlereagh Borough Council and Banbridge District Council had a surplus of allowances exceeding 40% of their allocations.

An additional nine councils; Antrim Borough Council, Ballymena Borough Council, Lisburn City Council; Ballymoney Borough Council; Limavady Borough Council, Magherafelt District Council, Armagh City and District Council, Cookstown District Council, and Omagh District Council had a surplus of allowances exceeding 30% of their allocation.

An additional six councils; Ards Borough Council, Newtownabbey Borough Council, North Down Borough Council, Derry City Council, Craigavon Borough Council, and Newry and Mourne District Council had a surplus of allowances exceeding 20% of their allocations.

The remaining nine councils: Belfast City Council, Carrickfergus Borough Council, Down District Council, Larne Borough Council, Coleraine Borough Council, Moyle District Council, Strabane District Council, Dungannon and South Tyrone Borough Council, and Fermanagh District Council all had less than 10% of their allocation as surplus at the end of the scheme year.

Over the next 11 years the allocations for each district council, and consequently Northern Ireland as a whole, progressively reduce making it vital for more BMW to be diverted from landfill. Next year is the first Landfill Directive target year at the end of which all Member States affected must have reduced their landfilled BMW to 75% of 1995 levels. In Northern Ireland this means that no more than 470,000 tonnes of BMW can be landfilled in 2009/10.

The revised Waste Management Plans (WMP) of the three WMG detail how they propose to deal with Northern Ireland's waste up to 2020. The plans set out the range of facilities required to deliver both the statutory (NILAS) and other strategic targets.

List of Acronyms

AA	Allocating Authority
BMW	Biodegradable Municipal Waste
CIWM	The Chartered Institution of Wastes Management
Defra	Department of Environment, Food and Rural Affairs
EHS	Environment and Heritage Service
EWG	European Waste Catalogue
MA	Monitoring Authority
MRF	Materials Recovery Facility
NIEA	Northern Ireland Environment Agency
NILAS	Northern Ireland Landfill Allowance Scheme
NWRWMG	North West Regional Waste Management Group
SWaMP2008	Southern Waste Management Partnership
WDF	WasteDataFlow
WET Act	Waste and Emissions Trading Act
WMG	Waste Management Group
WMP	Waste Management Plan
P&EPG	Planning and Environmental Policy Group

1. Introduction

Council Directive 1999/31/EC, on the Landfill of Waste (the Landfill Directive) became law on the 26th April 1999. The aim of the Landfill Directive is to reduce the pollution from landfilled waste that can impact on surface water, groundwater, soil, air and also climate change. Article 5(2) of the EU Landfill Directive (1999/31/EC) (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31999L0031:EN:HTML>) requires member states to reduce the amount of BMW sent to landfill through setting challenging targets.

The targets for the reduction of BMW landfilled are:

- To reduce by 2010 the quantity of BMW landfilled to 75% of that produced in 1995
- To reduce by 2013 the quantity of BMW landfilled to 50% of that produced in 1995
- To reduce by 2020 the quantity of BMW landfilled to 35% of that produced in 1995

The Landfill Allowance Scheme (NI) Regulations 2004 (NILAS) (www.opsi.gov.uk/sr/sr2004/20040416.htm) made under the Waste and Emissions Trading (WET) Act 2003 (www.opsi.gov.uk/acts/acts2003/ukpga_20030033_en_1), have been designed to ensure that Northern Ireland meets its targets as set out in the Landfill (Scheme Year and Maximum Landfill Amount) Regulations 2004 (www.opsi.gov.uk/si/si2004/20041936.htm) by allocating progressively challenging limits on the amount of BMW which can be landfilled by each district council (see Annex B).

The NILAS Regulations came into operation in Northern Ireland on 1st April 2005 hence, 2008/09 is the fourth scheme year. The Regulations place a statutory responsibility on district councils, in each scheme year, to landfill no more than the quantity of BMW for which they have allowances (each allowance represents one tonne of BMW that can be sent to landfill). If the annual limit is exceeded this may result in financial penalties of £150 per exceeded allowance as per the Landfill Allowances Scheme (Amendment) Regulations (Northern Ireland) 2005 (www.opsi.gov.uk/sr/sr2005/20050588.htm)

The scheme facilitates the transfer and borrowing (with restrictions e.g. allowances cannot be borrowed in a target year or in the year preceding a target year) of allowances between

district councils which promotes a flexible and partnership working arrangement. The scheme in Northern Ireland does not currently facilitate the trading of landfill allowances.

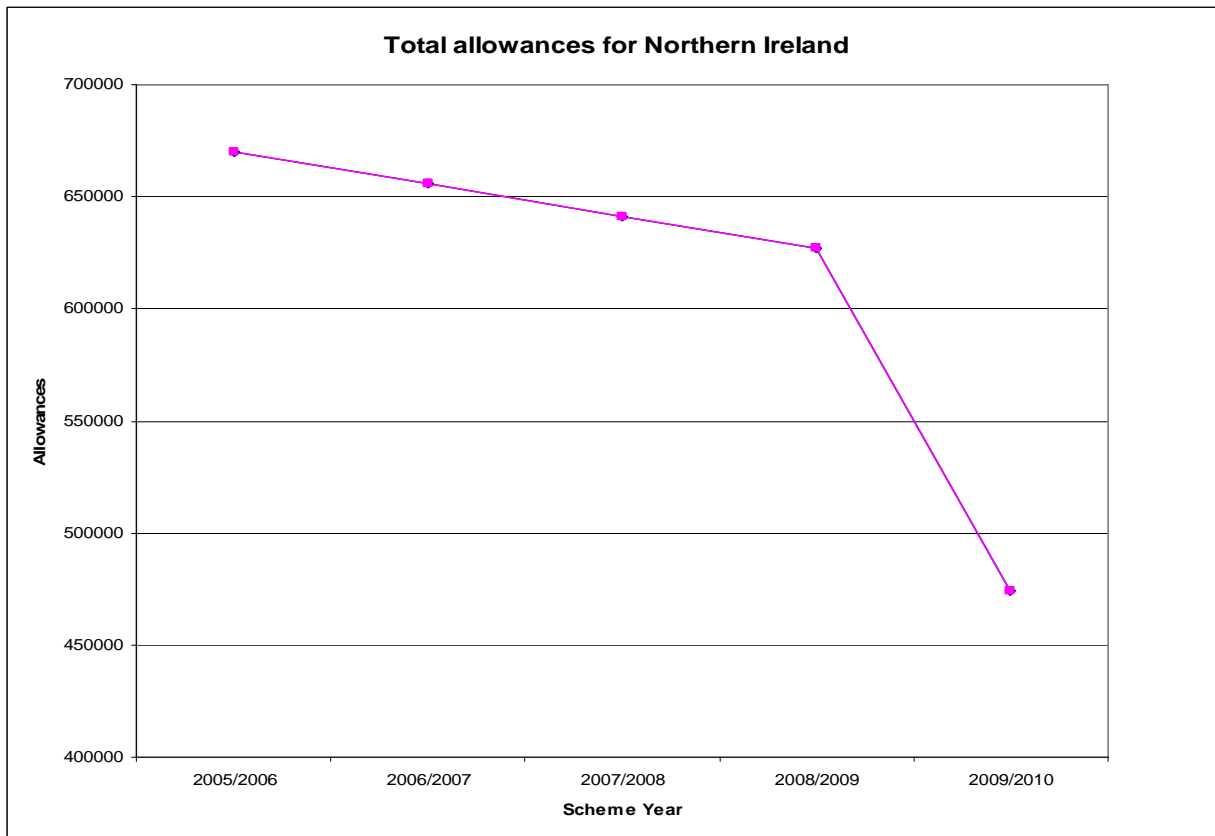
The methodology for allocating allowances to each district council was selected following consultation by the Planning & Environmental Policy Group (P&EPG) of the Department of Environment (DOE), who are designated under NILAS as the allocating authority (AA)

The allocation for the first year of the scheme was chosen so as to reflect as closely as possible the then current landfilling practice. The total amount of BMW sent to landfill in 2002, 669,885 tonnes, was chosen as the start point for the 2005/06 allocations. This total was divided proportionately between the district councils on the basis of landfill practice in 2003 (most up to date data set available). For subsequent years, a proposal for a straight line reduction between 2005/06 and 2009/10 was rejected instead the reduction profile was based on the early convergence of simple populations model in line with the landfill reduction commitments in the waste management plans of the three waste management groups. Consequently the AA, in order to facilitate long term planning, set the maximum allowance for each district council for every year of the scheme (see Annex B).

The method used to determine the amount of BMW sent to landfill for a scheme year is the mass balance approach. At its simplest this takes the MSW arisings in a scheme year and converts it to BMW by using the deemed biodegradable percentage (71% throughout 2008/09). For the purposes of calculating the BMW sent to landfill only, any distinct / separate rubble waste stream collected is excluded on the basis that it is unlike waste from households and is therefore considered to be industrial rather than municipal waste. Biodegradable materials diverted from landfill for recovery or recycling are also subtracted from this figure at either 100% or 50% according to the NILAS Regulations schedule in order to determine the remaining BMW sent to landfill. Annex C further details the methodology used in WasteDataFlow throughout 2008/09 in calculating the mass balance.

Figure 1 shows the profile of the total amount of BMW that can be landfilled until the first Landfill Directive target year. Through their WMP the three WMGs have detailed a range of processes that will need to be used to meet these targets.

Figure 1: Initial NI Allowance profile following the AA consultation exercise



England, Scotland and Wales have their own specific Landfill Allowance Regulations:

England: www.opsi.gov.uk/si/si2004/20043212.htm

Scotland: www.opsi.gov.uk/legislation/scotland/ssi2005/20050157.htm

Wales: www.opsi.gov.uk/legislation/wales/wsi2004/20041490e.htm

2. Reporting

2.1 District Councils

District councils in Northern Ireland are required to report data on municipal waste arisings on a quarterly basis as per NILAS Regulation 10 (5). The data for each quarter must be submitted to the Monitoring Authority within 2 months after the relevant quarter end. Table 1 shows the NILAS reporting deadlines in each scheme year. District councils must submit their data via the WasteDataFlow (WDF) system (www.wastedataflow.org).

Initially developed in 2004 by Chartered Institute of Waste Management (CIWM) WDF is now owned, operated, and managed by Defra in partnership with the UK's devolved administrations through an Operational Group and Programme Management Board who support the maintenance and development of the system via an IT contractor (currently Enviros Consulting Ltd).

(<http://www.defra.gov.uk/evidence/statistics/environment/wastats/wdf.htm>)

Northern Ireland district councils began formally reporting municipal waste data via WDF from January 2005. Data is managed within the system through various user levels representing district councils, WMGs, NIEA and public access. After the final reconciliations and annual report have been issued by NIEA, the raw data for the scheme year is made publically available on WDF.

Table 1: NILAS reporting deadlines

Quarter	Period in scheme year	Return MUST be submitted by:
1	1 st April – 30 th June	31 st August
2	1 st July – 30 th September	30 th November
3	1 st October – 31 st December	28 th February
4	1 st January – 31 st March	31 st May

Tables 2a and 2b illustrate when data was submitted to NIEA during the scheme year. For comparison, the date when the data was submitted to the WMG is also shown.

During the course of the 2007/08 scheme year an 'e-mail notification alert' was introduced aimed at improving the timeliness of returns. The relevant users, at each submission level, are informed by an automatically generated email that data is awaiting their approval and submission to the next level. This measure has and continues to improve data submission turnaround times.

Table 2a: Date on which Council returns were submitted to WMG and NIEA in 2008/09

District Council	Q1 due 31/08/08		Q2 due 30/11/08		Q3 due 28/02/09		Q4 due 31/05/09	
	WMG	NIEA	WMG	NIEA	WMG	NIEA	WMG	NIEA
Antrim BC	29/08/08	29/08/08	28/11/08	28/11/08	26/02/09	27/02/09	29/05/09	29/05/09
Ards BC	19/08/08	19/08/08	26/11/08	27/11/08	19/02/09	20/02/09	18/05/09	27/05/09
Armagh C&DC	13/08/08	13/08/08	03/11/08	11/11/08	18/02/09	18/02/09	18/05/09	19/05/09
Ballymena BC	24/07/08	24/07/08	06/11/08	11/11/08	18/02/09	20/02/09	20/05/09	27/05/09
Ballymoney BC	28/08/08	29/08/08	21/11/08	26/11/08	17/02/09	18/02/09	12/05/09	13/05/09
Banbridge DC	13/08/08	13/08/08	12/11/08	26/11/08	02/03/09 #	03/03/09 #	05/05/09	05/05/09
Belfast CC	01/09/08	01/09/08	28/11/08	28/11/08	27/02/09	04/03/09	29/05/09	29/05/09
Carrickfergus BC	12/08/08	14/08/08	24/11/08	27/11/08	23/02/09	24/02/09	06/05/09	07/05/09
Castlereagh BC	13/08/08	14/08/08	25/11/08	28/11/08	23/02/09	24/02/09	21/05/09	27/05/09
Coleraine BC	29/08/08	29/08/08	04/11/08	26/11/08	26/02/09	02/03/09	27/05/09	27/05/09
Cookstown DC	28/08/08	28/08/08	28/11/08	28/11/08	27/02/09	27/02/09	29/05/09	01/06/09
Craigavon BC	13/08/08	13/08/08	28/11/08	28/11/08	23/02/09	24/02/09	27/05/09	28/05/09
Derry CC	02/09/08	02/09/08	28/11/08	28/11/08	26/02/09	02/03/09	29/05/09	29/05/09
Down DC	04/09/08	05/09/08	28/11/08	30/11/08	06/03/09	16/03/09	28/06/09	29/06/09
Dungannon & South Tyrone BC	19/08/08	20/08/08	27/11/08	28/11/08	26/02/09	26/02/09	29/05/09	29/05/09
Fermanagh DC	29/08/08	29/08/08	28/11/08	28/11/08	27/02/09	27/02/09	29/05/09	29/05/09
Larne BC	29/08/08	29/08/08	28/11/08	30/11/08	26/02/09	27/02/09	29/05/09	01/06/09
Limavady BC	29/08/08	29/08/08	28/11/08	28/11/08	25/02/09	26/02/09	22/05/09	26/05/09
Lisburn CC	26/08/08	29/08/08	25/11/08	28/11/08	20/02/09	20/02/09	21/05/09	27/05/09
Magherafelt DC	28/08/08	28/08/08	28/11/08	08/12/08	27/02/09	02/03/09	27/05/09	28/05/09
Moyle DC	21/08/08	29/08/08	25/11/08	26/11/08	02/03/09	02/03/09	22/05/09	26/05/09
Newry & Mourne DC	29/08/08	29/08/08	27/11/08	28/11/08	23/02/09	24/02/09	23/05/09	26/05/09
Newtownabbey BC	14/08/08	14/08/08	28/11/08	28/11/08	25/02/09	27/02/09	26/05/09	27/05/09
North Down BC	26/08/08	29/08/08	30/11/08	30/11/08	24/02/09	27/02/09	29/05/09	29/05/09
Omagh DC	27/08/08	27/08/08	24/11/08	26/11/08	27/02/09	27/02/09	26/05/09	28/05/09
Strabane DC	28/08/08	29/08/08	27/11/08	28/11/08	20/02/09	26/02/09	28/05/09	29/05/09

- Red font denotes late return.
- Blue font denotes return received one day after deadline.
- Green font denotes return made on or before deadline.

Banbridge District Council's data for October to December was accepted by NIEA as being submitted by the relevant deadline in the light of undetermined technical issues experienced by the Council. The issue could not be identified despite investigations by both NIEA and the WDF IT contractor.

Table 2b: Date by which complete WMG returns were submitted to NIEA:

Waste Management Group	Q1 due 31/08/08	Q2 due 30/11/08	Q3 due 28/02/09	Q4 due 31/05/09
arc21	05/09/08	30/11/08	16/03/09	29/06/09
NWRWMG	02/09/08	08/12/08	02/03/09	29/05/09
SWaMP2008	29/08/08	28/11/08	03/03/09 #	01/06/09
% received by WMG by due date	88%	100%	96% #	96%
% received by NIEA by or within one day of due date	88%	96%	77% #	92%

Banbridge District Council's data was deemed by NIEA as being submitted by the relevant deadline in the light of undetermined technical issues experienced by the Council. The issue could not be identified despite investigations by both NIEA and the WDF IT contractor.

2.1.1 Validation Process

On receipt of data NIEA, the Monitoring Authority, conducts a qualitative assessment of the municipal waste arisings data in WDF. The validation process involves cross checking figures between questions and previously submitted quarterly returns. Any anomalies or discrepancies are queried with the relevant district council. Queried data for the relevant quarter is rejected back to the WMG who then reject data to the relevant district council to facilitate, where appropriate, any amendments. The data can normally only be entered and amended at district council level.

NIEA aims to complete the validation of all returns within one month of the relevant deadline and therefore requests that a response is made to all validation queries within 5 working days to ensure the production of timely and accurate municipal waste statistics.

As the year progressed the number and size of queries regarding most district council returns remained relatively constant. The qualitative validation picked up a number of errors in data entry which was sent back to the district councils concerned for rectification. This was in addition to data amendments required as a result of audits.

During the course of the 2007/08 scheme year NIEA began to publish quarterly interim municipal waste data on its website (www.ni-environment.gov.uk/waste/municipal_data_reporting.htm) to provide a timely summary on BMW landfilled

To assist district councils with self validation a summary spreadsheet has been developed within WDF. This enables quick checks to be viewed easily e.g. comparison of reported tonnages collected for recycling with reported tonnages of the waste sent for recycling, BMW landfilled etc. Similarly a spreadsheet detailing an indicative mass balance calculation has also been developed to enable district councils to easily review the calculated amount of BMW sent to landfill in any particular quarter and hence monitor their progress towards meeting their obligations under NILAS.

2.1.2 WasteDataFlow Northern Ireland User Group

On 10th July 2007 NIEA hosted the inaugural Northern Ireland WasteDataFlow User Group with the overall aim of contributing to making WasteDataFlow a successful data capture and reporting system with a high level of timely good quality data returns from district councils in Northern Ireland.

The main objective is to provide an accurate database of waste management information, with reporting functions available for district councils, WMGs and regional government.

The Group aims to achieve this by:

- identifying barriers to the effective use of the WDF system by district councils
- proposing practical solutions to these barriers. For example through specific proposals on contents of on-line help, Guidance Manual, revisions to questions, adjustments to web-based data screens, reporting functionality etc.
- identifying and sharing good practices in waste data management.
- Facilitating communication within the WasteDataFlow community
- Providing input to reporting developments.

The User Group also enables NIEA to provide a forum for dialogue between the three parties as well as an element of training to district council users involved in the entry of data through demonstrations of the reporting functionality etc.

During 2008/09 three meetings of the User Group were held and the agreed minutes of these and earlier meetings are publically available (www.ni-environment.gov.uk/waste/municipal_data_reporting.htm).

2.2 Landfill Operators

Under NILAS Regulation 11 (4), landfill operators are required to report, in each year, the amount of municipal waste sent to landfill at their sites. In 2008/09, 13 landfills in Northern Ireland reported accepting municipal waste. Municipal waste data from landfill operators is required within 2 months of the quarter end, corresponding with the district councils' submissions of data via WDF.

Landfill operator returns are submitted electronically to NIEA using the 'Landfill Operator – Municipal Waste Data Return Form (NILAS 001)' (www.ni-environment.gov.uk/nilas_landfilloperatorreturnssheet.xls). The return includes the following information:

- Weight of each load (to the nearest tonne);
- EWC code;
- District council area where the waste originates.

2.2.1 Validation Process

The amount of waste reported by landfill operators was cross checked with the returns from district councils submitted via WasteDataFlow.

Where there was more than 10 tonnes difference and this variation exceeded +/- 1% of the total between the landfill operator return and the district council return, the Monitoring Authority (NIEA) queried both sets of returns to establish the reason, and if appropriate to enable one or both sets of data to be corrected.

Some variation between the amounts of municipal waste reported as sent to landfill by landfill operators and by district councils will be attributable to:

- Rounding errors – landfill operators report the weight of each load which is rounded to the nearest tonne;
- Private contractors may take municipal waste to landfill in the same collection vehicle as non-municipal waste and therefore an estimated apportionment is used;

- NIEA do not receive returns from landfill operators outside Northern Ireland;
- Accurate reporting by landfill operators is dependent on them knowing the origin of the waste. This can be difficult when waste arrives via intermediate stages such as transfer stations or material recovery facilities; this has increasingly become a factor in establishing an audit trail between the waste disposed off by district councils and landfill operators.

2.2.2 Landfill Operator Data Audit

During the fourth scheme year five landfill sites accepting municipal waste were audited (see Table 3).

Table 3: Landfill operators audited in 2008/09

Landfill Operator	Date of Audit	Quarter audited
Mullaqhglass (Lagan Group)	5 th December 2008	Apr-June 08
Craigahulliar (Coleraine Borough Council)	4 th February 2008	Jul-Sept 08
Aughrim (Clearway Ltd)	24 th February 2009	Jul-Sept 08
Tullyvar (Dungannon & South Tyrone BC/ Omagh DC)	30 th June 2009	Jan-Mar 09
Cottonmount, Baird's Brae (Biffa)	7 th August 2009	Jan-Mar 09

The returns submitted by the landfill operator were compared with actual weighbridge dockets to validate the submissions made via the operator returns under the NILAS regulations. Records kept by landfill operators were in both paper and electronic form.

A sample of submitted data was selected from each landfill site to be audited. A random one week period for each month within the quarter was audited. Any discrepancies found were discussed and resolved with the operator prior to the close of the audit, and resolved through an audit report agreed with the landfill operator.

Each of the five landfills audited presented satisfactory records e.g. waste transfer notes, invoices and weighbridge printouts which were generally well ordered and readily available. The documentation matched or agreed closely with landfill return figures sent to NIEA. There were, on occasions, some missing waste transfer notes, however it was still possible to track the tonnages using the weighbridge printouts or data.

During the scheme year NIEA continued to seek data on municipal waste sent to landfill via transfer stations. This work has enabled the capture of data for these waste material streams and helped to create a more robust audit and correlation between the data reported by district councils and that reported by landfill operators.

3. District Council Data Audits

Between November 2008 and August 2009, the Monitoring Authority carried out 15 audits of district councils' municipal waste data submitted via WDF during the scheme year. The audits were conducted under Regulation 10 (6)(a) of the NILAS Regulations. The district councils selected from each WMG were contacted by telephone, letter and e-mail informing them of NIEA's intention to audit. Table 4 lists the district councils selected and the dates of the audits.

Table 4: District councils audited in 2008/09

District Council:	Date of Audit:	Quarter audited
Limavady Borough Council	4 th November 2008	Apr-Jun 08
Ards Borough Council	10 th November 2008	Apr-Jun 08
North Down Borough Council	6 th October & 19 th November 2008	Apr-Jun 08
Cookstown District Council	20 th November 2008	Apr-Jun 08
Belfast City Council	24 & 25 th February 2009	Jul-Sept 08
Larne District Council	23 rd June 2009	Jan-Mar 09
Moyle District Council	25 th June 2009	Jan-Mar 09
Dungannon & South Tyrone BC	1 st July 2009	Jan-Mar 09
Omagh District Council	8 th July 2009	Jan-Mar 09
Down District Council	6 th & 13 th August 2009	Jan-Mar 09
Banbridge District Council	20 th August 2009	Jan-Mar 09
Armagh City & District Council	12 th August 2009	Jan-Mar 09
Craigavon Borough Council	26 th August 2009	Jan-Mar 09
Newtownabbey Borough Council	27 th August 2009	Jan-Mar 09
Fermanagh District Council	28 th August 2009	Jan-Mar 09

The audit involved checking and confirming relevant data which was submitted as a NILAS return to the Monitoring Authority (NIEA) via WDF. One quarter of each District Council's municipal waste returns was selected, generally the most recent submission. The areas inspected related to:-

1. Landfilling of municipal waste.
2. Collection, recycling, reuse and recovery of municipal waste.
3. The standard of reporting / evidence for end destinations of recycled materials.

In each case documentation was requested relating to each waste stream. The documentation requested had to provide robust evidence of reported figures (e.g. waste transfer notes, invoices) and was compared against figures entered in WDF, and from landfill operator returns. The type of documentation used to compile returns was noted as were the names of any intermediate facilities used. Where facilities had been used which were not considered to be final destinations, information on the final destination of the waste stream was also requested.

Records were requested to confirm the data entered for household and non-household residual waste collections e.g. regular household collections and civic amenity site skips. Evidence was sought as to the composition of and origin of components in the final residual waste stream as well as the methodology used to determine these respective tonnages.

All records, including weighbridge dockets and invoices, were inspected and totalled for comparison with the figures entered in WasteDataFlow. Where minor discrepancies were discovered these were pointed out to the council officers concerned and rejected by NIEA for rectification on the WDF system accordingly.

The majority of the audits were completed within one working day. In one case additional time was required to complete the audit, and to obtain further evidence.

North Down Borough Council had a second audit undertaken after the issue of the draft reconciliation. The purpose of the second audit was aimed at determining reasons for a large variation in municipal waste arisings across the scheme year. As a result of this audit North Down Borough Council were required to alter their recorded residual waste tonnages for the scheme year as they had been over reported in the original data submissions.

Limavady Borough Council figures for the year were also re-examined as there appeared to be a steep decrease in municipal waste arisings in 2008/09. This decrease was attributed to grounds waste (mainly rubble accumulated over several years from Council maintenance projects) which had been removed for disposal during the last quarter of the 2007/08 scheme year.

The systems used by district councils for the collection and storage of data were varied. The majority of data was held in a paper format, with relatively little being held in electronic form. Most of the data was easily, and readily, accessible. However, in the majority of cases the collection and storing of data was managed by one person thereby considerably increasing the risk to the district council of a failure to make a timely submission should that person be unavailable for whatever reason e.g. sickness or leave.

It was noted that there was variability in the standard of collation of information on the collection of waste streams both for disposal and recycling. The majority of district council's keep records in a paper based system with varying degrees of IT usage. In many cases the relevant information is well ordered and stored separately in easily accessible files. However several councils' documentation proved more difficult to access thus requiring more time for the audit.

Although, the information recorded regarding final destinations has improved considerably over the course of the four scheme years more effort is urgently required by some district councils to determine this information. NIEA from the outset of WDF has advised district councils that MRFs were not considered to be a final destination for the recovery of materials, and that councils should determine this information which is also required to discharge their obligation under NILAS Regulation 10 (1) (c) and their Duty of Care.

3.1 Facility Audit

During the course of the 2008/09 scheme the NILAS team began to widen the scope of the audits which had been conducted to date. It was felt that as the first Landfill Directive target year (2009/10) was approaching that it would be prudent to commence an audit programme of licensed waste facilities accepting municipal waste from Northern Ireland's district councils. The purpose of such an audit would be to determine the extent to which recovery of materials had taken place and to reinforce the data collected during the course of district council audits.

From January 2008 NIEA had started a process whereby all licensed sites within Northern Ireland were required to submit a quarterly waste summary return to the Department for data collected after October 2007. This information contained data on European Waste Codes (EWC) for waste received on site and waste removed from site, and the district council area in which the waste originated. The data is supplied in summary form i.e. a total tonnage is entered against each relevant EWC rather than as individual loads.

Table 5 lists the licensed waste facilities and the dates of the audit

Table 5: Licensed waste facilities accepting municipal waste from Councils audited in 2008/09

Waste Facility	Licence Number	Date of Audit	Quarter audited
City industrial Waste, Londonderry	WML 13/44	9 th April 2009	Jul to Sept 08
Bryson House, Newtownabbey	WML 23/17	23 rd July 2009	Jan to Mar 09
ReGen, Newry	WML 22/25	31 st July 2009	Jan to Mar 09

4. Reconciliation Process

The Monitoring Authority (NIEA) has a statutory duty under NILAS Regulation 13 to calculate the amount of BMW sent to landfill by each district council for the scheme year and prepare a draft reconciliation of the tonnages involved and allowances used. This must be completed no later than 5 months after the end of the scheme year. The BMW sent to landfill is calculated via a mass balance approach (see Annex C)

NIEA delivered a draft reconciliation to each district council, WMG and the allocating authority (P&EPG) on 6th July 2009.

The Monitoring Authority has a statutory duty under Regulation 14 to reconcile the allowances available with the amount of BMW as calculated under Regulation 13 as soon as reasonably practicable after the end of the reconciliation period.. The final reconciliation wasn't completed until the issues with North Down Borough Council, Limavady Borough Council and Craigavon Borough Council were resolved to the satisfaction of the NILAS team. The final reconciliation of the BMW tonnages involved and allowances used was sent to each district council, WMG and the allocating authority (P&EPG) on the 2nd November 2009. There were no queries raised by any of the parties after following the issue of the final reconciliation.

5. District Council Performance

The scheme year 2008/09 was the fourth year of the scheme. In 2008/09 the total number of landfill allowances allocated was 626,925. Each allowance permits the landfilling of one tonne of BMW.

The total amount of BMW reported to have been sent to landfill was 475,078 tonnes i.e. 24.22% of the 2008/09 landfill allowances were not utilised. These non-utilised allowances increased by 3.8% compared to the previous year 2007/08 (21.43%). Over the last 4 years Northern Ireland has reduced the amount of BMW sent to landfill by 82,931 tonnes.

The Southern Waste Management Group (SWaMP2008) sent 123,800 tonnes of BMW to landfill, 27.74% less than their allocated allowances. SWaMP2008 reduced the amount of BMW sent to landfill by 6,906 tonnes in 2008/09 compared with 2007/08. Only Armagh City & District Council showed an increase (484 tonnes) of BMW sent to landfill in 2008/09 compared to 2007/08. All the remaining councils in this WMG reduced their BMW sent to landfill with Fermanagh showing the largest decrease (1790 tonnes) over the two scheme years.

The amount of BMW sent to landfill in the North West Regional Waste Management Group (NWRWMG) was 89,557 tonnes, 24.65% less than their allocated allowances. All the councils in this WMG reduced their BMW sent to landfill with Moyle showing the smallest decrease (155 tonnes) and Coleraine showing the largest decrease (4176 tonnes) in 2008/09 compared to 2007/08

The amount of BMW sent to landfill by the arc21 Waste Management Group (arc21) was 261,721 tonnes, 22.28% less than their allocated allowances. Only Down District Council showed an increase (3630 tonnes) of BMW sent to landfill in 2008/09 compared to 2007/08. All the other councils in this WMG reduced their BMW sent tot landfill with Belfast City Council showing the largest decrease (4353 tonnes) over the two scheme years..

Table 6 shows the percentage of allowances utilised by each district council ranked according to the allowance allocation remaining at the end of the scheme year.

Table 6: Landfill Allowance Utilisation for 2008/09

District Council	BMW allowance	BMW sent to landfill (Tonnes as reported)	Allowances used (%)
Banbridge District Council	16,325	8,837	54.13
Castlereagh Borough Council	24,097	13,369	55.48
Magherafelt District Council	15,326	9,438	61.58
Armagh City & District Council	20,531	12,739	62.05
Omagh District Council	18,305	11,595	63.34
Antrim Borough Council	18,138	11,911	65.67
Limavady Borough Council	12,637	8,363	66.18
Cookstown District Council	12,435	8,415	67.67
Ballymoney Borough Council	10,550	7,172	67.98
Lisburn City Council	40,345	28,016	69.44
Ballymena Borough Council	21,849	15,197	69.55
North Down Borough Council	28,186	20,221	71.74
Newry & Mourne District Council	33,518	25,061	74.77
Craigavon Borough Council	30,516	23,218	76.08
Ards Borough Council	27,695	21,156	76.39
Newtownabbey Borough Council	29,467	22,843	77.52
Derry City Council	39,397	30,962	78.59
Dungannon & South Tyrone BC	18,066	14,517	80.35
Larne Borough Council	11,289	9,110	80.70
Strabane District Council	14,287	11,540	80.77
Carrickfergus Borough Council	14,252	11,586	81.29
Coleraine Borough Council	20,569	17,027	82.78
Moyle District Council	6,081	5,056	83.14
Belfast City Council	97,033	85,586	88.20
Fermanagh District Council	21,619	19,419	89.82
Down District Council	24,410	22,726	93.10

Figure 2 shows the calculated BMW for the fourth scheme year against the allowances allocated to each of the district councils.

Table 7 illustrates the differences between the amount of BMW landfilled by each district council in the third and fourth scheme years and the % increase or decrease in BMW landfilled over the first four scheme years.

Figure 2: Landfill Allowance Utilisation for 2008/09.

Allocated & Utilised allowances in Northern Ireland in 2008/09 by council

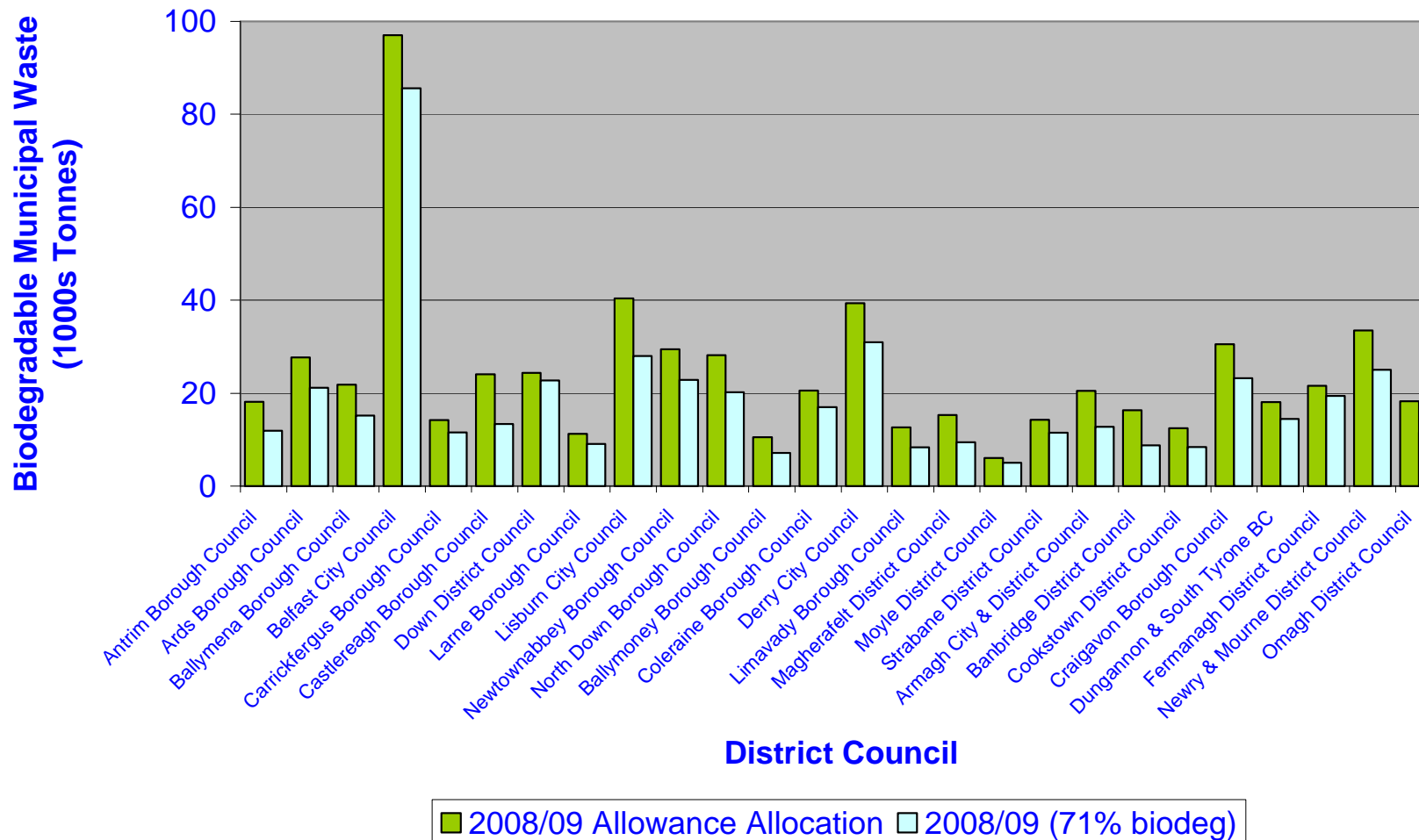


Table 7: Comparison of BMW sent to landfill by Council & WMG by NILAS scheme year.

Waste Management Group:	District Council:	BMW sent to landfill 2005/06 (Tonnes as reported)	BMW sent to landfill 2006/07 (Tonnes as reported)	BMW sent to landfill 2007/08 (Tonnes as reported)	BMW sent to landfill 2008/09 (Tonnes as reported)	Difference between 2007/08 & 2008/09 (Tonnes as reported)	Difference between 2005/06 & 2008/09 (Tonnes as reported)
arc21	Antrim Borough Council	12,635	12,402	13,417	11,911	-1,506	-724
	Ards Borough Council	25,851	25,046	24,701	21,156	-3,545	-4,695
	Ballymena Borough Council	19,355	18,439	17,990	15,197	-2,793	-4,158
	Belfast City Council	106,509	96,063	89,939	85,586	-4,353	-20,923
	Carrickfergus Borough Council	14,935	14,116	11,802	11,586	-216	-3,349
	Castlereagh Borough Council	15,496	14,450	13,882	13,369	-513	-2,127
	Down District Council	17,262	17,382	19,096	22,726	3,630	5,464
	Larne Borough Council	11,345	10,259	9,769	9,110	-659	-2,235
	Lisburn City Council	37,242	34,186	30,412	28,016	-2,396	-9,226
	Newtownabbey Borough Council	27,599	28,024	26,488	22,843	-3,645	-4,756
North Down Borough Council	28,503	25,257	23,239	20,221	-3,018	-8,282	
	arc21 – Total:	316,732	295,622	280,735	261,721	-19,014	-55,011
NWRWMG	Ballymoney Borough Council	8,119	8,724 ¹	8,048	7,172	-876	-947
	Coleraine Borough Council	22,604	23,411 ²	21,203	17,027	-4,176	-5,577
	Derry City Council	27,909	33,509	31,900	30,962	-938	3,053
	Limavady Borough Council	8,016	9,200	9,304	8,363	-941	347
	Magherafelt District Council	10,445	10,977	10,354	9,438	-916	-1,007
	Moyle District Council	6,043	5,739	5,211	5,056	-155	-987
	Strabane District Council	12,345	12,697	12,743	11,540	-1,203	-805
	NWRWMG – Total:	95,481	104,258	98,763	89,557	-9,206	-5,924
SWaMP2008	Armagh City & District Council	14,296	13,715	12,255	12,739	484	-1,557
	Banbridge District Council	10,213	9,110	9,753	8,837	-916	-1,376
	Cookstown District Council	10,402	9,977	9,184	8,415	-769	-1,987
	Craigavon Borough Council	27,624	24,191	24,657	23,218	-1,439	-4,406
	Dungannon & South Tyrone BC	16,694	16,223	15,386	14,517	-869	-2,177
	Fermanagh District Council	21,740	21,117	21,209	19,419	-1,790	-2,321
	Newry & Mourne District Council	28,105	27,608	26,259	25,061	-1,198	-3,044
	Omagh District Council	16,722	13,894	12,004	11,595	-409	-5,127
	SWaMP2008 – Total:	145,796	135,835	130,706	123,800	-6,906	-21,996
	Northern Ireland – Total:	558,009	535,715	510,205	475,078	-35,127	-82,931

5.1 Northern Ireland Waste Compositional Study 2007/08

NIEA as Monitoring Authority have an obligation under Regulation 9(2) to keep under review the assumed amount of biodegradable waste in collected municipal waste.

Regulation 12(2) deemed the biodegradable content of collected municipal waste to be 71% as determined in 2000 by the Northern Ireland Waste Characterisation Study conducted by NI2000.

The results of the new 2007/08 Northern Ireland Waste compositional study were made public in February 2008. The main finding of this study was the determination that at this time 64% was a more representative figure for the biodegradable content of collected municipal waste within Northern Ireland. The executive summary and full study, respectively, can be found at:

www.ni-environment.gov.uk/waste_compositional_study_2007-08_executive_summary.pdf

www.ni-environment.gov.uk/waste_compositional_study_2007-08_full_report.pdf

5.2 The Landfill Allowances Scheme (Amendment) Regulations (Northern Ireland) 2008

In September 2008 P&EPG issued a consultation paper on proposed amendments to the NILAS Regulations with a view to amending NILAS Regulation 12 (2)(a) from 71% to 64% in relation to the deemed biodegradable content in collected municipal waste.

The Landfill Allowances Scheme (Amendment) Regulations (Northern Ireland) 2009 (www.opsi.gov.uk/sr/sr2009/nisr_20090046_en_1) were made on 11th February 2009 to come into operation on 1st April 2009 changing the deemed statutory BMW percentage to 64% for the 2009/10 scheme year onwards.

This change reflects the current levels of biodegradability of municipal waste collected in Northern Ireland and is comparable to levels in England (68%), Wales (61%) and Scotland (63%).

Assessment of the impact of the reduction in the BMW percentage must be seen in the context of the mass balance calculation, rather than a straightforward 7% reduction. Therefore, impact of the figures for the BMW at 64% may appear greater than originally anticipated.

5.3 Looking Forward to the first Landfill Directive Target Year 2009/10

71% BMW

If we assume the total amount of municipal waste collected remains constant and that the biodegradable component of this waste remains at 71% as in previous years then Northern Ireland as a whole would have 16,076 surplus allowances in 2009/10. This is broken down by council and WMG in Table 8 & Figure 3. On this basis NWRWMG would show a deficit (275 tonnes) but arc21 and SWaMP2008 would show surpluses (11,315 and 5,036 tonnes respectively)

64% BMW

If we assume the total amount of municipal waste collected remains constant and that the biodegradable component of this waste is 64%, as per the latest compositional study (see section 5.1), then Northern Ireland as a whole would have a 63,821 surplus allowances in 2009/10. This is broken down by council and WMG in Table 9 and Figure 3. On this basis all three WMGs, NWRWMG, arc21 and SWAMP2008, would show surpluses (11,502, 28,258 and 24,062 tonnes respectively)

The above calculations, used to show the impact of this biodegradability reduction, have been based on the WDF mass balance calculation rather than calculating a simple 7% reduction. In either case, the trend in the reduction in BMW sent to landfill should continue as the WMGs continue to implement their Waste Management Plans.

To achieve the Landfill Directive target it will be necessary to:

1. Increase the diversion of BMW from landfill;
2. Reduce the amount of municipal waste generated;
3. Adopt a combination of both these options.

Municipal waste arisings decreased by 4.14% whilst the municipal waste recycling rate increased by 2.76% between 2007/08 and 2008/09. However it is important to bear in mind that this decrease in waste production and increase in recycling does not necessarily mean similar reductions in BMW since both include non-biodegradable fractions.

Figure 3: Comparison of BMW sent to landfill broken down by Council and NILAS Scheme Year

Reported BMW sent to landfill in Northern Ireland for each NILAS scheme year by council

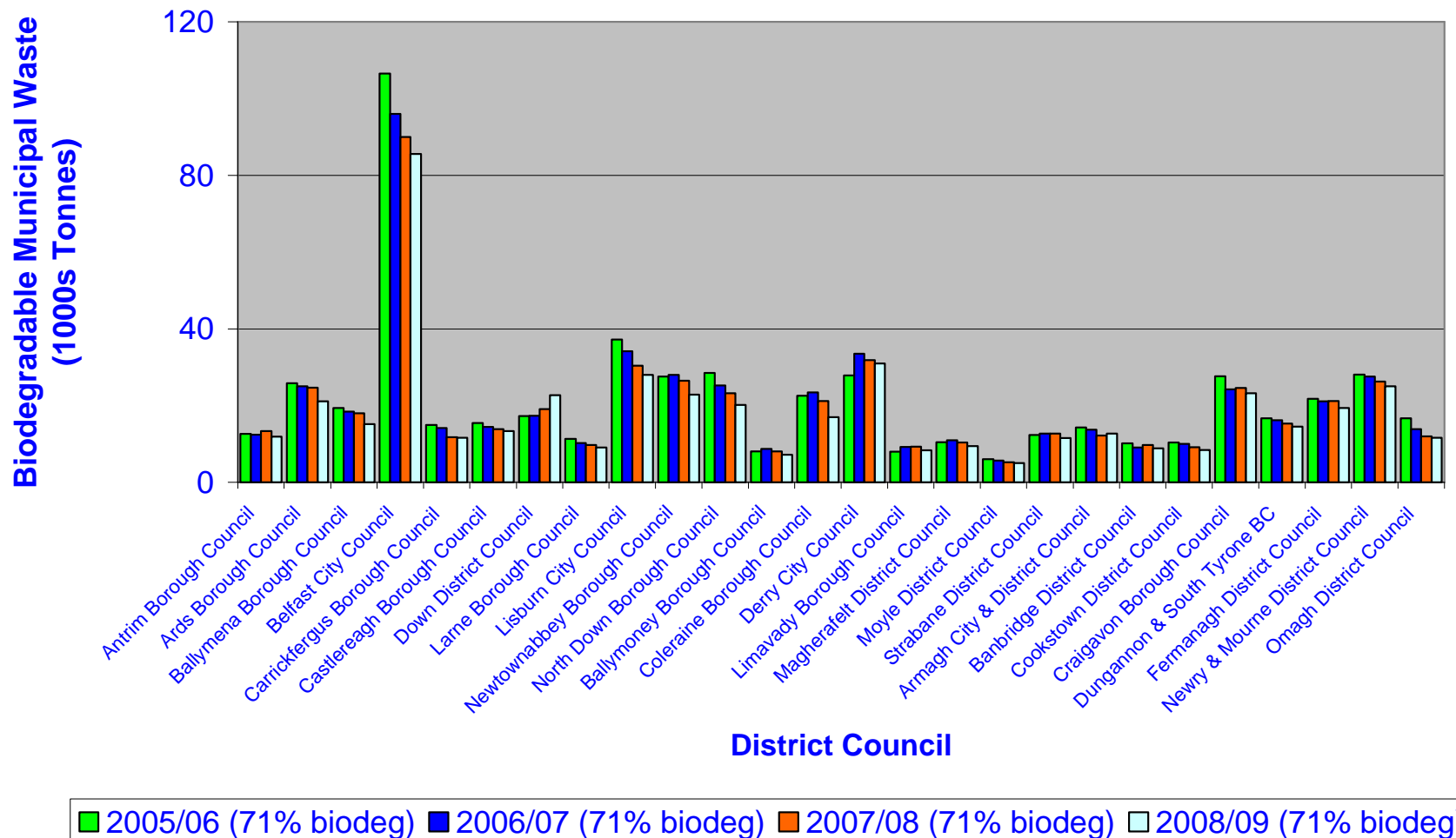


Table 8: Landfill Allowance Utilisation for first Landfill Directive Target Year @ 71% BMW
(assuming amount of BMW landfilled remains constant)

Waste Management Group	District Council	BMW (71%) sent to landfill in 2008/09 (T)	Allocation 2009/10 (T)	Balance (T)	surplus / deficit (%)
arc21	Antrim BC	11,911	13,605	1,694	12.45%
	Ards BC	21,156	20,798	-358	-1.72%
	Ballymena BC	15,197	16,384	1,187	7.24%
	Belfast CC	85,586	72,218	-13,368	-18.51%
	Carrickfergus BC	11,586	10,705	-881	-8.23%
	Castlereagh BC	13,369	17,987	4,618	25.67%
	Down DC	22,726	18,368	-4,358	-23.73%
	Larne BC	9,110	8,446	-664	-7.86%
	Lisburn BC	28,016	30,233	2,217	7.33%
	Newtownabbey BC	22,843	22,057	-786	-3.56%
	North Down BC	20,221	21,081	860	4.08%
	arc21	261,721	251,880	11,315	4.49%
NWRWMG	Ballymoney BC	7,172	7,960	788	9.90%
	Coleraine BC	17,027	15,395	-1,632	-10.60%
	Derry CC	30,962	29,568	-1,394	-4.71%
	Limavady BC	8,363	9,521	1,158	12.16%
	Magherafelt BC	9,438	11,545	2,107	18.25%
	Moyle DC	5,056	4,569	-487	-10.66%
	Strabane DC	11,540	10,725	-815	-7.60%
	NWRWMG	89,557	89,283	-275	-0.31%
SWaMP2008	Armagh C&DC	12,739	15,420	2,681	17.39%
	Banbridge DC	8,837	12,324	3,487	28.29%
	Cookstown DC	8,415	9,356	941	10.06%
	Craigavon BC	23,218	22,928	-290	-1.26%
	Dungannon & South Tyrone BC	14,517	13,580	-937	-6.90%
	Fermanagh DC	19,419	16,229	-3,190	-19.66%
	Newry & Mourne	25,061	25,240	179	0.71%
	Omagh DC	11,595	13,760	2,165	15.73%
	SWaMP2008	123,800	128,837	5,037	3.91%
	Northern Ireland:	475,078	470,000	16,076	3.42%

Table 9: Landfill Allowance Utilisation for first Landfill Directive Target Year @ 64% BMW
(assuming amount of BMW landfilled remains constant).

Waste Management Group	District Council	BMW (64%) sent to landfill in 2008/09 (T)	Allocation 2009/2010 (T)	Balance (T)	surplus / deficit (%)
arc21	Antrim BC	9,500	13,605	4,105	30.17%
	Ards BC	17,920	20,798	2,878	13.84%
	Ballymena BC	12,773	16,384	3,611	22.04%
	Belfast CC	74,495	72,218	-2,277	-3.15%
	Carrickfergus BC	9,995	10,705	710	6.63%
	Castlereagh BC	11,191	17,987	6,796	37.79%
	Down DC	20,028	18,368	-1,660	-9.04%
	Larne BC	7,649	8,446	797	9.43%
	Lisburn BC	23,753	30,233	6,480	21.43%
	Newtownabbey BC	19,426	22,057	2,631	11.93%
	North Down BC	16,894	21,081	4,187	19.86%
	arc21	223,622	251,880	28,260	11.22%
NWRWMG	Ballymoney BC	6,112	7,960	1,848	23.22%
	Coleraine BC	14,578	15,395	817	5.30%
	Derry CC	27,428	29,568	2,140	7.24%
	Limavady BC	7,285	9,521	2,236	23.49%
	Magherafelt BC	7,849	11,545	3,696	32.01%
	Moyle DC	4,471	4,569	98	2.15%
	Strabane DC	10,058	10,725	667	6.22%
	NWRWMG	77,781	89,283	11,502	12.88%
SWaMP2008	Armagh C&DC	10,762	15,420	4,658	30.21%
	Banbridge DC	6,971	12,324	5,353	43.43%
	Cookstown DC	7,022	9,356	2,334	24.95%
	Craigavon BC	19,657	22,928	3,271	14.27%
	Dungannon & South Tyrone BC	12,323	13,580	1,257	9.26%
	Fermanagh DC	16,770	16,229	-541	-3.34%
	Newry & Mourne	21,486	25,240	3,754	14.87%
	Omagh DC	9,784	13,760	3,976	28.90%
	SWaMP2008	104,775	128,837	24,062	18.68%
	Northern Ireland:	406,179	470,000	63,821	13.58%

Figure 4: Comparison between BMW landfilled (@71%) and progress towards 2009/10 targets

Reported 2008/09 BMW sent to landfill in Northern Ireland compared to 2009/10 Landfill Directive first target year allowances

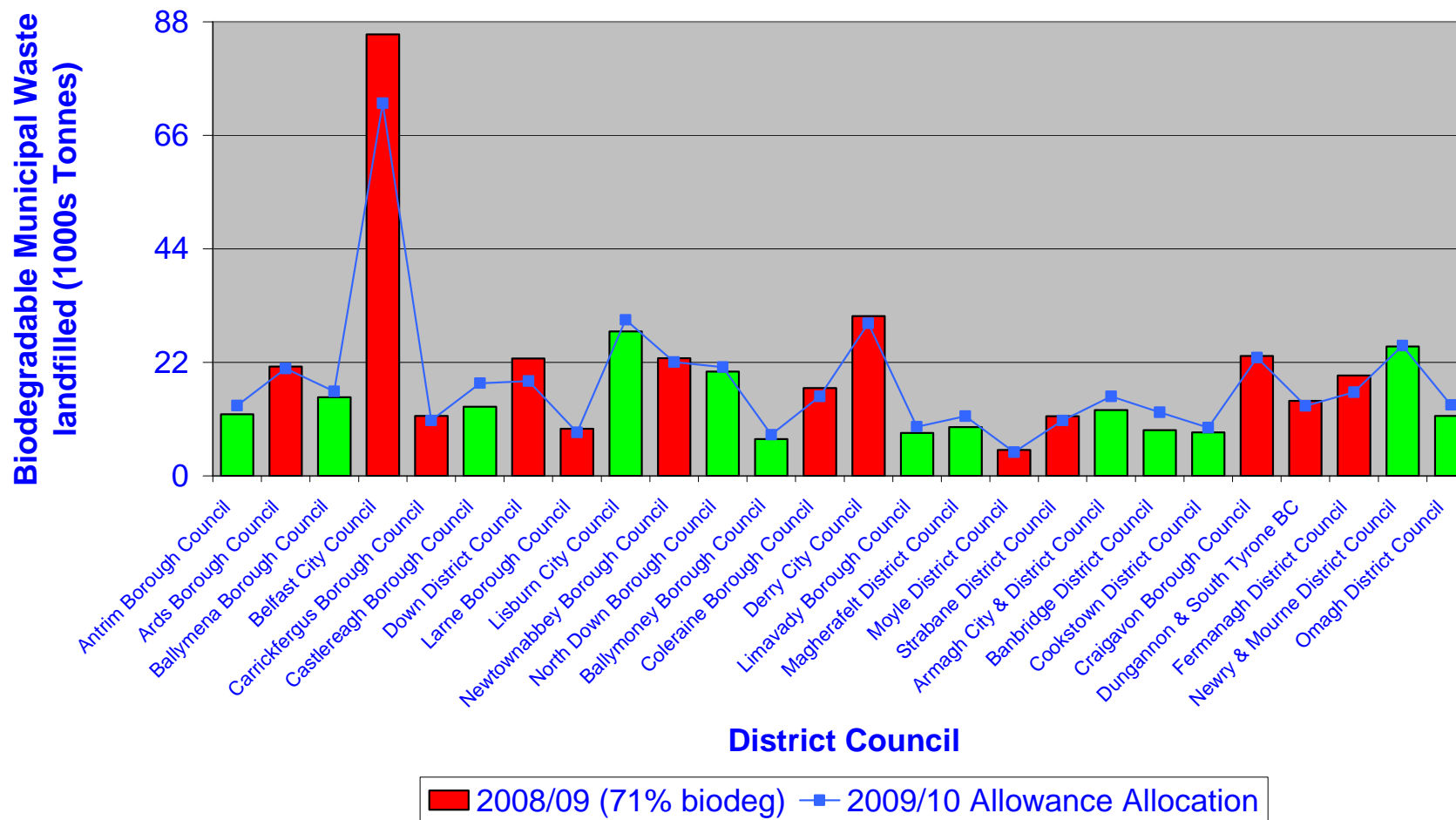
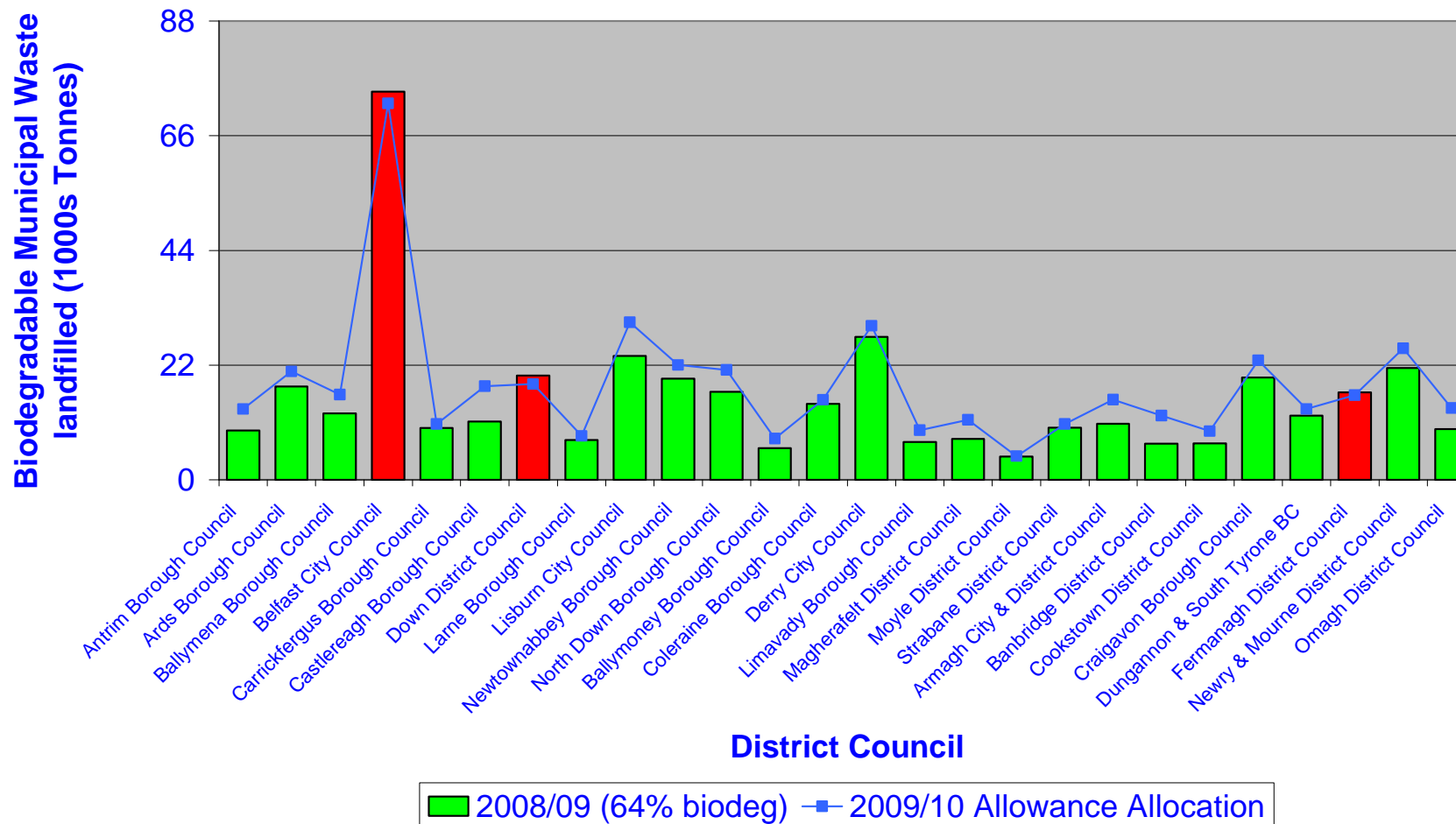


Figure 5: Comparison between BMW landfilled (@64%) and progress towards 2009/10 targets

Reported 2008/09 BMW sent to landfill in Northern Ireland compared to 2009/10 Landfill Directive first target year allowances



Annex A: NILAS progress – 4th Scheme Year (08/09) Regulation 14 Final Reconciliation

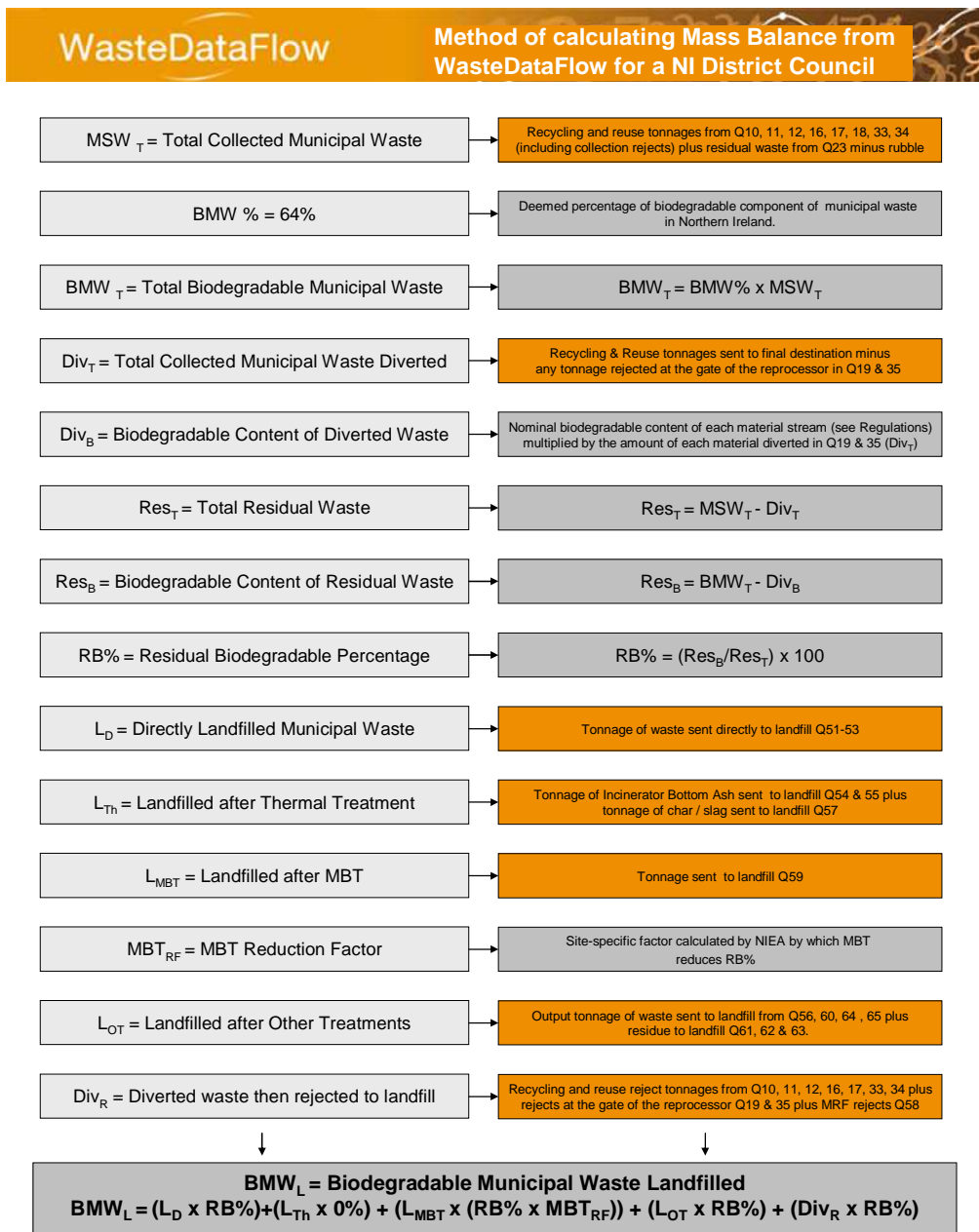
Waste Management Group	District Council	2008/09 Allocation	BMW sent to landfill 2008/09 (Tonnes as reported)	BMW sent to landfill 2008/09 (% allocation)
arc21	Antrim Borough Council	18,138	11,911	65.67%
	Ards Borough Council	27,695	21,156	76.39%
	Ballymena Borough Council	21,849	15,197	69.55%
	Belfast City Council	97,033	85,586	88.20%
	Carrickfergus Borough Council	14,252	11,586	81.29%
	Castlereagh Borough Council	24,097	13,369	55.48%
	Down District Council	24,410	22,726	93.10%
	Larne Borough Council	11,289	9,110	80.70%
	Lisburn City Council	40,345	28,016	69.44%
	Newtownabbey Borough Council	29,467	22,843	77.52%
	North Down Borough Council	28,186	20,221	71.74%
ARC21 – Total:		336,762	261,721	77.72%
NWRWMG	Ballymoney Borough Council	10,550	7,172	67.98%
	Coleraine Borough Council	20,569	17,027	82.78%
	Derry City Council	39,397	30,962	78.59%
	Limavady Borough Council	12,637	8,363	66.18%
	Magherafelt District Council	15,326	9,438	61.58%
	Moyle District Council	6,081	5,056	83.14%
	Strabane District Council	14,287	11,540	80.77%
NWRWMG – Total:		118,847	89,557	73.35%
SWaMP2008	Armagh City & District Council	20,531	12,739	62.05%
	Banbridge District Council	16,325	8,837	54.13%
	Cookstown District Council	12,435	8,415	67.67%
	Craigavon Borough Council	30,516	23,218	76.08%
	Dungannon & South Tyrone BC	18,066	14,517	80.35%
	Fermanagh District Council	21,619	19,419	89.82%
	Newry & Mourne District Council	33,518	25,061	74.77%
	Omagh District Council	18,305	11,595	63.34%
SWaMP2008 – Total:		171,316	123,800	72.26%
Northern Ireland – Total:		626,925	475,078	75.78%

ANNEX B: Northern Ireland Landfill Allowance Scheme Allocations

Northern Ireland Landfill Allowances Scheme: Landfill Allowance Allocation (tonnes)

DC Allowances	2005/06	2006/07	2008/09	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Antrim BC	17,288	18,936	18,535	18,138	13,605	13,607	13,490	9,261	8,846	8,430	8,014	7,596	7,184	6,771	6,358
Ards BC	31,842	28,862	28,280	27,695	20,798	20,828	20,686	14,230	13,617	13,002	12,382	11,758	11,119	10,480	9,841
Ballymena BC	21,453	22,835	22,344	21,849	16,384	16,380	16,242	11,156	10,656	10,156	9,657	9,158	8,660	8,162	7,665
Belfast CC	116,877	102,992	99,985	97,033	72,218	71,692	70,573	48,123	45,652	43,218	40,817	38,445	36,355	34,266	32,177
Carrickfergus BC	17,114	14,843	14,549	14,252	10,705	10,724	10,652	7,328	7,011	6,691	6,371	6,049	5,720	5,392	5,063
Castlereagh BC	23,103	25,385	24,745	24,097	17,987	17,907	17,673	12,079	11,488	10,900	10,317	9,740	9,211	8,682	8,152
Down DC	25,736	25,344	24,878	24,410	18,368	18,432	18,345	12,645	12,127	11,604	11,078	10,548	9,974	9,401	8,828
Larne BC	13,526	11,862	11,575	11,289	8,446	8,426	8,336	5,710	5,441	5,173	4,908	4,645	4,392	4,140	3,888
Lisburn CC	48,719	42,207	41,275	40,345	30,233	30,215	29,943	20,551	19,621	18,693	17,767	16,841	15,926	15,011	14,096
Newtownabbey BC	31,180	30,901	30,184	29,467	22,057	22,014	21,787	14,934	14,240	13,544	12,852	12,161	11,500	10,839	10,178
North Down BC	33,588	29,606	28,894	28,186	21,081	21,030	20,807	14,259	13,593	12,930	12,271	11,613	10,982	10,350	9,719
arc21	380,427	353,773	345,244	336,762	251,880	251,256	248,533	170,277	162,291	154,344	146,435	138,554	131,024	123,493	115,964
Armagh C&DC	17,790	21,394	20,964	20,531	15,420	15,441	15,334	10,546	10,089	9,632	9,172	8,710	8,236	7,763	7,290
Banbridge DC	12,896	16,824	16,577	16,325	12,324	12,412	12,395	8,573	8,247	7,915	7,577	7,235	6,842	6,449	6,055
Cookstown DC	11,681	12,920	12,678	12,435	9,356	9,387	9,344	6,440	6,175	5,908	5,638	5,367	5,075	4,784	4,492
Craigavon BC	30,961	31,763	31,141	30,516	22,928	22,972	22,825	15,708	15,037	14,365	13,689	13,011	12,304	11,597	10,890
Dungannon & South Tyrone BC	18,375	18,793	18,431	18,066	13,580	13,614	13,534	9,320	8,928	8,536	8,140	7,742	7,321	6,901	6,480
Fermanagh BC	21,041	22,557	22,088	21,619	16,229	16,249	16,138	11,101	10,623	10,144	9,663	9,183	8,684	8,185	7,686
Newry & Mourne DC	28,720	34,731	34,127	33,518	25,240	25,353	25,251	17,422	16,721	16,012	15,297	14,576	13,784	12,992	12,200
Omagh BC	19,155	19,047	18,678	18,305	13,760	13,793	13,711	9,442	9,043	8,642	8,241	7,837	7,411	6,985	6,559
SWaMP2008	160,619	178,028	174,684	171,316	128,837	129,221	128,531	88,551	84,864	81,153	77,417	73,661	69,658	65,654	61,651
Ballymoney BC	12,968	10,889	10,721	10,550	7,960	8,010	7,992	5,525	5,311	5,094	4,874	4,652	4,399	4,146	3,894
Coleraine BC	28,812	21,586	21,077	20,569	15,395	15,367	15,209	10,426	9,941	9,458	8,975	8,496	8,034	7,572	7,111
Derry CC	36,273	41,103	40,253	39,397	29,568	29,596	29,375	20,192	19,309	18,423	17,535	16,646	15,742	14,837	13,932
Limavady BC	12,255	13,074	12,860	12,637	9,521	9,568	9,536	6,582	6,317	6,050	5,777	5,503	5,204	4,905	4,606
Magherafelt BC	14,230	15,863	15,597	15,326	11,545	11,603	11,563	7,983	7,668	7,347	7,023	6,694	6,331	5,967	5,603
Moyle DC	6,889	6,334	6,207	6,081	4,569	4,580	4,552	3,134	3,001	2,866	2,733	2,598	2,457	2,316	2,174
Strabane DC	17,412	14,896	14,591	14,287	10,725	10,736	10,659	7,330	7,012	6,692	6,372	6,052	5,723	5,394	5,065
NWRWMG	128,839	123,745	121,307	118,847	89,283	89,460	88,886	61,172	58,559	55,931	53,290	50,641	47,889	45,136	42,384
Northern Ireland total	669,885	655,545	641,235	626,925	470,000	469,937	465,950	320,000	305,714	291,428	277,142	262,856	248,570	234,284	220,000

ANNEX C: Mass balance calculation



Excerpt from

www.wastedataflow.org/documents/NIDCWasteDataFlowMassBalanceCalculation.pdf

“Our aim is to protect and conserve the natural and built environment and to promote its appreciation for the benefit of present and future generations.”