Strategic Waste Management Survey

Waste





Landfill within the East Midlands Planning Region

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1. Summary

A survey of waste landfilled within the East Midlands Planning Region was undertaken by the Environment Agency. The purpose of the survey was to:

- review the quantity and type of waste going for landfill;
- determine patterns of waste movement;
- assess future demand for landfill capacity;
- assess existing and potential incinerator capacity;
- assemble data for use in development of a regional waste management strategy;
- assemble data to assist the monitoring of progress in meeting Government landfill waste reduction targets.

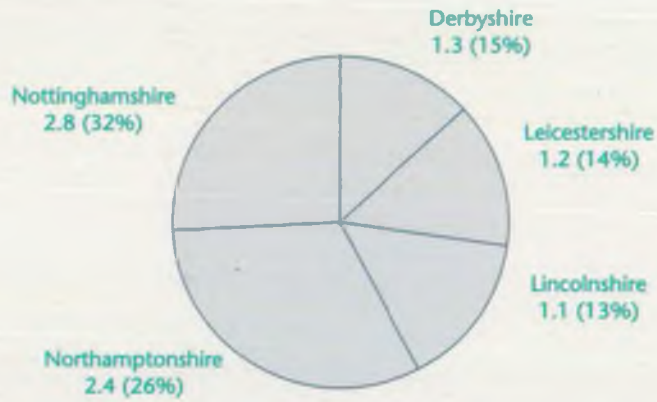
Survey data

Information was collected through systems inherited from the former waste regulation authorities and waste was classified using 12 broad categories: household waste (including civic amenity and trade waste), construction and demolition waste (including inert waste), special waste, difficult waste requiring special on-site management, waste tyres, clinical and veterinary waste, animal carcasses, sewage sludge, liquid waste, pulverised flue ash and furnace bottom ash, incinerator residues, and other industrial and commercial waste. Difficulties experienced in converting data from the waste categorisation systems used in Lincolnshire and Northamptonshire necessitated modification of the above categories for these counties. Data relates to the year 1995/96 except for Derbyshire where it was necessary to use 1996/97 data.

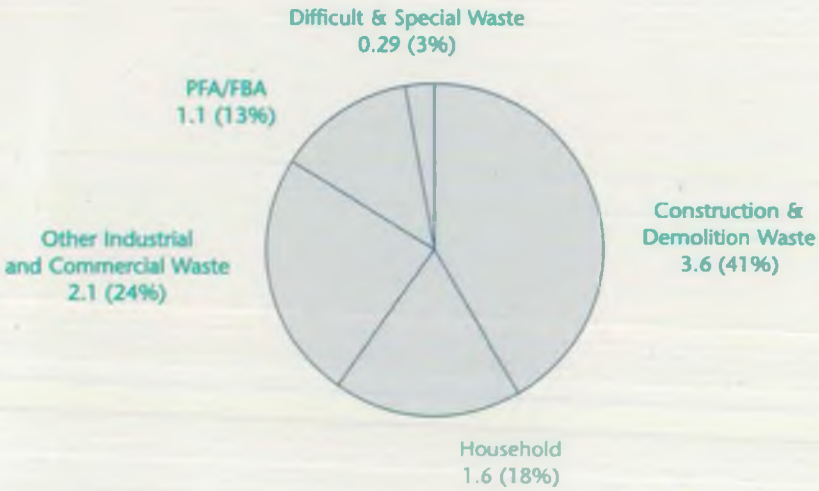
Waste type and deposition

Of 211 licensed landfill sites in the East Midlands region included in the survey, 159 received waste and around 8.8 million tonnes of waste were deposited. The site of deposition and types of waste are depicted below:

Waste landfilled in the East Midlands Planning Region by County (million tonnes)
(Total = Approx 8.8 million tonnes)



Waste landfilled in the East Midlands Planning Region by Waste Type (millions tonnes)



Summary

Waste movement

Approximately 7.9 million tonnes of waste landfilled was deposited at sites within the county of origin. 600,000 tonnes of waste moved across the borders of the constituent counties.

Approximately 300,000 tonnes of waste was imported into the region and constituted around 3.4% of the total quantity of waste landfilled.

Future demand for landfill capacity

An overall reduction of approximately 1.2 million tonnes per year needs to be achieved by 2005 to meet the Government interim landfill diversion target of reducing the proportion of controlled waste going to landfill from 70% to 60%.

Sites exempt from licensing

At the present time, it is not possible to fully assess the role of sites exempt from licensing in the overall management of wastes arising within the region, and in particular waste generated from the construction industry. The Environment Agency is considering measures to assess the types and quantities of waste handled by these facilities.

EC landfill directive and landfill tax

The proposed EC Landfill Directive, if implemented in its present draft form, would have far reaching implications for the management of wastes, particularly the types of waste being landfilled and the availability and cost of future landfill facilities. The future level of the Landfill Tax is also of great relevance in relation to the types and quantities of wastes being landfilled. Both the Landfill Tax and the proposed EC Landfill Directive are likely to increase demand for alternative methods of waste management. Waste minimisation initiatives and the Packaging Directive should also divert significant quantities of waste from landfill.

2. Introduction

The Environment Agency was formed in April 1996, and inherited the responsibilities of the former Waste Regulation Authorities (WRAs), Her Majesty's Inspectorate of Pollution (HMIP) and the National Rivers Authority (NRA). The Agency was set up to protect and enhance the environment as part of the Government's overall commitment to sustainable development, and as such plays a central role in putting environmental policies into practice.

The reduction in the quantities of waste going for landfill is a key objective of the Government's policy for the management of wastes within England and Wales outlined in the White Paper "Making Waste Work". The Agency has a remit to improve information relating to waste management and has undertaken a pilot survey of waste generated by industry and commerce as a precursor to a full national survey of waste generation.

The survey described in this report intends to overview the use and possible future demand for landfill capacity within the East Midlands Planning Region. Data collated for the report are from systems developed by the former Waste Regulation Authorities and from Waste Management Plans prepared under the Environmental Protection Act 1990. Controlled waste, as defined in the Waste Management Licensing Regulations 1994, is primarily industrial, commercial and household waste and is simply referred to as "waste" in the report.

Large quantities of wastes are currently disposed of at landfill sites across the region. The likely future demand and availability of landfill capacity to receive these wastes are important issues to be considered by waste planning authorities when preparing waste local plans and unitary development plans. Data in the report will serve as a bench mark for monitoring progress in reducing the amount of waste going for landfill in the region and will assist in the development of a regional strategy for the management of wastes.

3. Objectives

The survey aims to:

- review the quantity and type of waste going for landfill in the East Midlands Planning Region;
- determine patterns of waste movement within the East Midlands Planning Region;
- consider future demand for landfill capacity;
- consider existing and potential incinerator capacity for the treatment of household and commercial wastes, clinical wastes and waste tyres;
- assemble data to assist the monitoring of progress in meeting Government waste reduction targets;
- provide a benchmark for reducing the dependence placed on waste disposal by landfill in the East Midlands Planning Region;
- provide a useful basis for the development of a national and regional waste management strategy for the management of wastes.

4 Survey

4.1 Source of data and waste categorisation

Most of the information compiled for the survey is taken from licensed site return data collected by the former waste regulation authorities during a 12-month period from January 1995 to April 1996, inclusive. Data for Derbyshire relates to 1996/97.

The survey covers landfill facilities that were licensed to receive wastes during this period and considers waste deposited in terms of 12 broad categories:

Table 1. Waste categories

Waste type	*Waste Category*	*Interim code**
Household (includes civic amenity and trade waste collected by local authorities)	1	22.09.06
Construction and demolition (includes inert wastes and waste used in landfill construction/restoration)	2	22.02
Special	3	22.09.06
Difficult (wastes requiring special on-site handling)	4	22.09.06
Tyres	5	22.09.06
Clinical (includes veterinary wastes)	6	25.00.00
Animal carcasses (includes tissue, bone and rendered material)	7	22.07
Sewage sludge	8	22.10.00
Liquid	9	22.09.06
Pulverised flue ash (PFA) and Furnace bottom ash (FBA)	10	27.04.00/27.05.00
Incinerator residues	11	22.09.06
Other industrial and commercial waste	12	22.09.06

**equivalent National Waste Classification Scheme code*

Difficulties experienced in converting data from the waste categorisation systems used in Lincolnshire and Northamptonshire have necessitated grouping of the above categories as follows:

Table 2. Waste categories in Lincolnshire

Waste type	*Waste category*	*Interim code**
Household	1	22.09.06
Construction and demolition	2	22.02
Special	3	22.09.06
Difficult, sewage sludge, PFA, FBA and incinerator residues	4, 8, 10, 11	22.09.06/22.10.00/ 27.04.00/27.05.00
Tyres	5	22.09.06
Clinical	6	25.00.00
Animal carcasses (including food and processing wastes)	7	22.07
Liquid	9	22.09.06
Other industrial and commercial	12	22.09.06

**equivalent National Waste Classification Scheme code*

Table 3. Waste categories in Northamptonshire

Waste type	*Waste category*	*Interim code**
Household, clinical and animal carcasses	1, 6, 7	27.09.06/25.00.00/22.07
Construction and demolition	2	22.02
Special	3	22.09.06
Difficult	4	22.09.06
Tyres	5	22.09.06
Sewage sludge	8	22.10.00
Liquid	9	22.09.06
PFA and FBA	10	27.04.00/27.05.00
Incinerator residues	11	22.09.06
Other industrial and commercial	12	22.09.06

**equivalent National Waste Classification Scheme code*

4.2 The East Midlands planning region

Total region

The East Midlands Region covers the five counties of Derbyshire, Leicestershire, Nottinghamshire, Lincolnshire and Northamptonshire. Geographically, the region is the third largest in England covering 1.5 million hectares or 12% of land area. The population is about 4 million (March 1994; 8.4% UK total).

Table 4. Demography of East Midlands planning region (1991)

County	*Population (hectares)*	*Area (persons/hectare)*	*Population Density*
Derbyshire	943,200	262,860	3.6
Leicestershire	894,400	255,087	3.5
Lincolnshire	591,100	592,100	1.0
Northamptonshire	578,807	236,900	2.4
Nottinghamshire	1,020,200	216,365	4.7
East Midlands Region	4,027,707	1,563,312	2.6

The region is largely rural, with major centres of population in Derby, Leicester, Nottingham, Lincoln and Northampton. The population density is highest in a broad belt running northwards from Leicester through Loughborough, Nottingham and Derby to Mansfield and Chesterfield.

Table 5. Waste generated in the East Midlands planning region

*Waste type**		
Industrial and commercial	7,252,641	tonnes per year
Household	1,934,965	tonnes per year
Construction and demolition	3,647,833	tonnes per year
Total	10,085,756	tonnes per year
Special **	101,684	tonnes per year
PFA/FBA **	2,749,683	tonnes per year

**Source: published Waste Management Plans and other local authority sources*

***Included above*

Derbyshire

Population and employment

In 1991, the population was approximately 943,000. Traditional industries, in particular coal-mining, are in long-term decline. Although manufacturing industries such as metals, heavy engineering and textiles are in decline nationally, they continue to play an important part in Derbyshire's economy. The fall in manufacturing employment is being offset by an increase in service employment (Census of Employment 1987-1991; Derbyshire Structure Plan Consultation Draft 1996).

Waste generation

A Waste Disposal Plan (COPA 74) for Derbyshire prepared by the Waste Disposal Authority (WDA) in 1985 was not replaced under Section 50 of EPAct 1990 by a waste management plan. Estimates of current waste arisings were obtained from the Environment Agency Midlands Region Reference Book 1995/96. Total waste generated was estimated at 2.4 million tonnes for 1994/95. Derbyshire County Council are currently producing a waste strategy for the county.

Leicestershire

Population and employment

The population is around 894,000 (1991 Census). The population distribution varies considerably across the county: the western districts of NW Leicestershire, Hinckley/Bosworth, Charnwood and Blaby account for 46%, Leicester City and Oadby/Wigston have 38%, and although the two eastern rural districts of Melton and Harborough, and Rutland Unitary Authority occupy about half the area of the county, they only account for 16% of the population.

The main employment sectors are the service industries at 61%, followed by manufacturing 31%, construction 4%, energy and water 2% and agriculture 2% (Census of Employment 1991). There is growth in employment in the service sector, such as food and drink, printing and publishing, plastics, business services, transport and distribution, whilst employment in coal mining and agriculture continues to decline.

Waste generation

A Waste Management Plan (1996-2006) prepared by Leicestershire County Council showed the types and quantities of waste generated within the county during the financial year 1993/94. The plan indicated that a total of 2.14 million tonnes of waste was generated, with 1.7 million tonnes (79%) disposed of within the county. Industrial and commercial waste was the largest single category of waste arising at 45%. There were approximately 466,000 tonnes of household and civic amenity waste, including collected commercial and civic amenity trade waste arising. Of this, 93% was disposed of within the county by landfill and 7% was exported.

Lincolnshire

Population and employment

Although Lincolnshire is the largest county in the East Midlands Region, it has the lowest population at approximately 591,000 in 1991. Arable farming and intensive horticulture form the largest part of the county's rural economy. The Census of Employment 1991 indicated that approximately 25% of the workforce were employed in manufacturing and construction, 65% in the service sector and the remaining 10% in agriculture, energy and water, and mineral extraction.

Waste generation

A waste arising survey was undertaken by Lincolnshire County Council in 1994, but a Waste Management Plan was not completed before the Environment Agency was formed in April 1996. Waste generation statistics derived from the 1994 survey indicated that Lincolnshire exports relatively small amounts of waste. The A1 corridor, running along the western side of the county, may attract significant quantities of imported waste from the adjoining counties of Nottinghamshire and Leicestershire. At the time of the survey no data was gathered on the cross boundary flow of waste.

In 1994, the total quantity of waste generated in Lincolnshire was about 1.8 million tonnes. This comprised 198,000 tonnes (11%) of household and collected commercial waste, 750,000 tonnes (41%) of construction and demolition waste, and 887,000 tonnes (48%) of industrial waste. Non-controlled waste amounted to approximately 1.78 million tonnes, of which agricultural waste accounted for more than 1.5 million tonnes (84%).

Northamptonshire

Population and employment

In 1991, the population was approximately 579,000. Employment as outlined by the 1991 Census indicated that 31% of the workforce was employed in manufacturing, with approximately 63% in the service sector and the remaining 6% in agriculture, energy and water, and mineral extraction.

Waste generation

The survey undertaken for the Northamptonshire Waste Management Plan showed than an approximate total of 1.5 million tonnes of waste was generated in 1992, excluding agricultural and mineral/quarry waste. Of this, 635,000 tonnes (42%) was industrial waste, 238,000 tonnes (16%) household and collected trade waste and 595,000 tonnes (40%) construction industry waste. The remainder comprised 23,000 tonnes (1.5%) of sewage sludge, 1,200 tonnes (0.08%) of clinical waste, and 800 tonnes (0.05%) of ash

Nottinghamshire

Population and employment

In 1991, the population was approximately 1,020,000. The Census of Employment 1991 indicated that 37% of the workforce was employed in the service sector, 23% in manufacturing, 21% in distribution, hotels and catering, and 4% in construction. The largest manufacturing sector was mechanical engineering at 4%. Other important local manufacturing industries include clothing, electronic engineering, tobacco and chemicals. Agriculture is the largest user of land, utilising over 75% of land area. Employment in coal mining has declined.

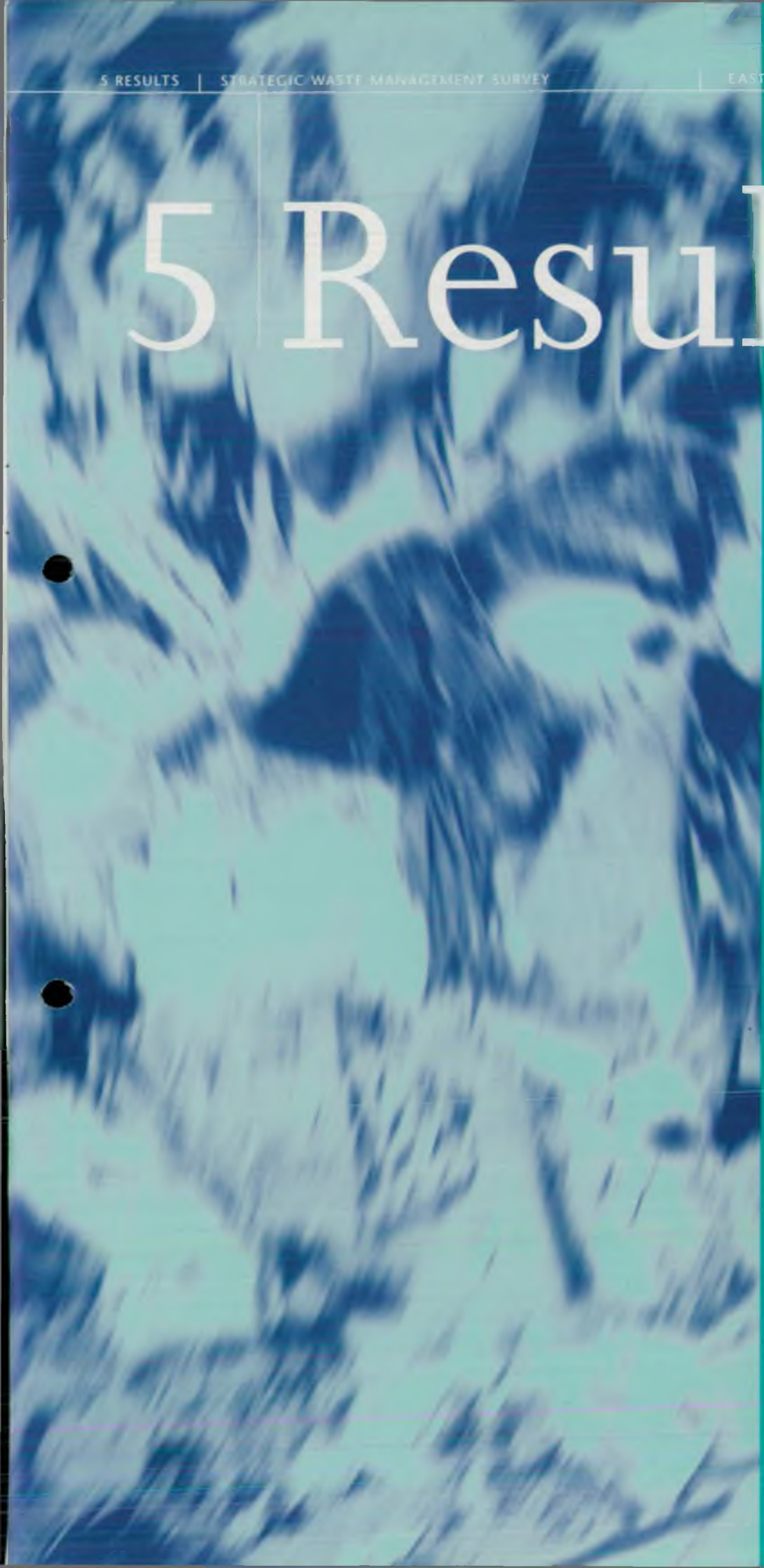
Waste generation

A Waste Management Statement was published by Nottinghamshire County Council during 1996. A survey of waste arisings was carried out during 1993 and this was correlated with disposal figures from licensed disposal sites available for the year 1992/93. Statistics for household waste were taken from 1993/94. Waste generation statistics therefore relate to the calendar year 1993. Predictions and needs were forecast up to 2004 to correlate with the draft Nottinghamshire Waste Local Plan.

In 1993, the total quantity of waste generated in the county was estimated at 5,086,000 tonnes. All household waste was disposed of within the county, as was approximately 80% of commercial waste and 50% of industrial waste. Approximately 3% of the total arisings were incinerated within the county, and the remainder was exported.

Power station ash from four coal-fired generating stations amounted to 2.7 million tonnes. In 1993, a total of 0.6 million tonnes of furnace botton ash (FBA) was sold as a secondary aggregate mainly for building blocks. Of 2.14 million tonnes of pulverised fuel ash (PFA), 1.6 million tonnes was used in the county for reclaiming sand and gravel workings by landfill. The remainder was exported. The only significant producer of incinerator residue is the Eastcroft Incinerator which burns municipal waste to generate heat and power.

A flue gas desulphurisation (FGD) plant has been constructed at Ratcliffe-on-Soar power station. When fully operational it can produce nearly 0.5 million tonnes of desulphogypsum, most of which is intended to be a saleable product. The remainder along with 28,000 tonnes of water treatment sludge will require disposal.



5 Results

5.1 Waste types and distribution of landfill sites

Total region

The region had a total of 211 landfill sites licensed to receive wastes during the periods considered and 159 sites actually received wastes. The sites are listed in Appendix 2. The number of landfill sites in each county is shown in Table 6.

Table 6. Number of licensed and operational sites by county

	Licensed landfill sites	*Sites receiving waste*
Derbyshire	48	37
Leicestershire	36	20
Lincolnshire	46	36
Northamptonshire	41	34
Nottinghamshire	40	32
Total	211	159

It is estimated that approximately 8.8 million tonnes of controlled waste was landfilled at licenced sites in the region. The total quantity of waste deposited in each county is shown in Table 7.

Table 7. Waste deposited at sites in the East Midlands Region by county

County	*Amount (tonnes)*
Derbyshire	1,330,999 (15%)
Leicestershire	1,215,902 (14%)
Lincolnshire	1,142,394 (13%)
Northamptonshire	2,355,244 (27%)
Nottinghamshire	2,819,301 (32%)
Total	8,863,840

Sites in Nottinghamshire and Northamptonshire accepted 32% and 26%, respectively of the total quantity of wastes deposited at landfill sites across the region. Landfill sites in Leicestershire, Derbyshire and Lincolnshire handled the remaining 42% of waste deposited.

The following types of waste were deposited at landfill sites within the region:

Table 8. Waste deposited at sites in the region by waste type (tonnes)

Waste Type		%
Household	1,603,810	18
Construction and demolition	3,662,613	41
Difficult (incl. special)	291,529	3
PFA/FBA	1,163,079	13
Other industrial and commercial	2,062,826	23
Other waste categories	79,983	1
Total	8,863,840	

The three main categories of waste that went to landfill comprised construction and demolition (including inert wastes) 41%; other industrial and commercial wastes 23%; and household, civic amenity and trade wastes collected by local authorities 18%. PFA waste accounted for 13% of all wastes deposited, and mainly came from Nottinghamshire.

Derbyshire

A total of 1.3 million tonnes of waste was deposited at 37 of 48 licensed landfill sites, with 83% originating from within the county.

Waste types

Approximately one third of the waste types deposited was industrial and commercial waste, the remainder mainly comprising construction and inert waste (36%) and household waste (26%); Table 9.

Table 9. Waste types deposited at sites within Derbyshire (tonnes)

Waste Types		*%*	*Number of sites accepting waste**
Household	342,937	25.77	6
Construction and demolition	488,574	36.71	29
Special	2,254	0.17	7
Difficult	29,152	2.19	7
Clinical	318	0.02	4
Sewage sludge	9,622	0.72	2
PFA	6,059	0.46	4
Incinerator residues	2,287	0.17	4
Other industrial and commercial	449,796	33.79	25
Total	1,330,999	100.00	

** Sites can accept more than one category of waste*

Distribution of landfill sites

Most landfilled waste was deposited in sites in South Derbyshire (32%), Derbyshire Dales (21%), and Bolsover (12%). The majority of the waste deposited at sites in Derbyshire Dales and Derby City comprised construction and inert waste, whilst sites in the districts of Chesterfield, South Derbyshire and Bolsover accepted mainly non-inert waste.

During 1996/97, there were 5 major licensed sites that received household, and commercial and industrial waste (non-inert) in Derbyshire. Amber Valley, Derby City, Erewash, NE Derbyshire and High Peak did not have landfill facilities accepting non-inert waste during the survey period. Approximately 38% of total construction waste was received by sites within the Derbyshire Dales district and 27% at sites within South Derbyshire.

Sewage sludge was deposited at only 2 sites, and a limited quantity of special waste (2,254 tonnes) was landfilled ; see Table 10.

Table 10. Waste types deposited at sites within Derbyshire by district (tonnes)

Waste type	*Amber Valley*	*Bolsover*	*Chesterfield*	*Derby City*	*Derby Dales*	*Erewash*	*High Peak*	*NE Derbyshire*	*South Derby*	*Total*
Household	0	81,632	99,377	0	30,387	0	0	0	131,541	342,937
Construc-tion and demolition	1,347	18,243	6,829	65,547	186,826	97	0	76,283	133,402	488.574
Special	0	449	790	0	30	0	0	3	982	2,254
Difficult	0	16	406	11,145	0	3,219	0	163	14,203	29,152
Clinical	0	113	140	0	7	0	0	0	58	318
Sewage sludge	0	0	0	0	0	0	0	0	9,622	9,622
PFA/ FBA	0	1,390	1,675	0	1,604	0	0	0	1,390	6,059
Incinerator residues	0	28	58	0	0	0	0	0	2,201	2,287
Other industrial and commercial	4,373	56,331	93,270	30,802	62,099	30,126	3,244	38,862	130,689	449,796
District total	5,720	158,202	202,545	107,494	280,953	33,442	3,244	115,311	424,088	1,330,999

Leicestershire

A total of 1.2 million tonnes of waste was deposited at 20 of 36 licensed landfill sites, 93% of the which originated from within the county. The remaining 16 sites did not accept any waste during 1995/96.

Waste types

Construction and demolition waste (inert waste) represented >40% of all waste landfilled, with the remainder comprising household (32%), industrial and commercial wastes (20%), and a minimal amount of other wastes. Table 11 shows the tonnage of each type of waste deposited.

Table 11. Waste types deposited at sites within Leicestershire (tonnes)

Waste types		*%*	*Number of sites accepting waste**
Household	390,854	32.15	7
Construction and demolition	525,184	43.19	15
Difficult	51,099	4.20	10
PFA	20	<0.01	1
Other industrial and commercial	248,745	20.46	12
Total	1,215,902	100	-

**Sites can accept more than one category of waste.*

Distribution of landfill sites

Most landfilled waste was deposited at sites in the districts of Blaby (36%), Harborough (16%), Hinckley and Bosworth (14%) and North West Leicestershire (11%); (see Table 12). Sites in Harborough district accepted significant quantities of construction and inert waste. For all waste categories, 67% of landfilled waste was deposited at sites in north and west Leicestershire, and 33% in south and east Leicestershire. The quantity of construction and inert waste deposited was evenly distributed between the two areas.

Table 12. Waste types deposited at sites within Leicestershire by district (tonnes)

	Blaby	Charnwood	Hinckley & Bosworth	NW Leicester	North West Total	Melton	Rutland	Harborough	East and South Total	Total
Household	175,382	0	99,933	56,381	331,696	24,408	11,588	23,162	59,158	390,854
Construction and demolition	126,228	78,122	38,271	18,690	261,311	27,563	83,717	152,593	263,873	525,184
Difficult*	15,490	0	3,052	10,901	29,443	18,425	0	3,231	21,656	51,099
PFA/FBA	20	0	0	0	0	0	0	0	0	20
Other industrial and commercial	119,127	2,209	25,050	50,504	196,890	16,812	16,258	18,785	51,855	248,745
District Total	436,247	80,331	166,306	136,476	819,340	87,208	111,563	197,771	396,542	1,215,902

**Difficult category includes waste tyres, sewage sludge and animal carcasses*

Note: no wastes were deposited in the City of Leicester or in Oadby and Wigston

Lincolnshire

A total of 1.1 million tonnes of waste was deposited at 36 of 46 licensed landfill sites, with approximately 89% originating from within the county: (see Table 13).

Waste types

Over half the waste landfilled was construction waste, the remainder predominantly consisting of other industrial and commercial waste (32%), and household waste (15%).

Table 13. Waste types deposited at sites within Lincolnshire (tonnes)

Waste type		%
Household	170,777	14.95
Construction and demolition	597,417	52.30
Special	1,540	0.13
Difficult, sewage sludge, PFA/FBA, incinerator residues	979	0.09
Waste tyres	6,389	0.56
Clinical	435	0.04
Other industrial and commercial	364,857	31.94
Total	1,142,394	100.00

Distribution of landfill sites

There were 8 major landfill sites that accepted household and biodegradable industrial waste. There were no active sites in South Holland and it is estimated that nearly half of South Holland's waste was disposed of in Boston, and the remainder split equally between South Kesteven and adjoining Cambridgeshire. The types and quantities of waste deposited at sites in each district are shown in Table 14.

Table 14. Waste type deposited at sites within Lincolnshire by district (tonnes)

	West Lindsey	*East Lindsey*	*Lincoln*	*North Kesteven*	*Boston*	*South Kesteven*	*Total*
Household	12,943	39,548		48,078	41,666	28,542	170,777
Construction and demolition	68,118	41,190	5,712	370,938	5,566	105,893	597,417
Special	159	302		574	294	211	1,540
Difficult, sewage sludge, PFA/FBA and incinerator residue	6	0	0	964	0	9	979
Waste tyres	0	0	0		6,388	1	6,389
Clinical	30	96		255	2	52	435
Other industrial and commercial	39,526	45,645	20	123,596	63,397	92,673	364,857
District total	120,782	126,781	5,732	544,405	117,313	227,381	1,142,394

Note: no wastes were landfilled in South Holland district

Northamptonshire

A total of 2.3 million tonnes of waste was deposited at 34 of 41 licensed landfill sites, with approximately 83% originating from within the county; (see Table 15).

Waste types

About half the total waste deposited was construction waste (including inert waste), and the remainder mainly comprised other industrial and commercial waste (30%), and household waste (14%).

Table 15. Waste types deposited at sites within Northamptonshire (tonnes)

Waste Type		%
Household	330,534	14.03
Construction and demolition	1,180,583	50.13
Special	68,790	2.92
Difficult	54,446	2.31
Tyres	2,096	0.09
Liquid	11,626	0.49
Other industrial and commercial	707,169	30.03
Total	2,355,244	100

Distribution of landfill sites

There were 9 major sites licensed to accept household and biodegradable industrial waste, of which 6 could also accept difficult and specjal wastes. A total of 9 sites accepted 60% of the all waste, with the remaining 25 sites taking the balance of inert waste. No sites accepted PFA.

Sites in Corby and Daventry accepted just over half of all the landfilled waste in 1995/96, at 5 of 9 major landfill sites: (see Table 16). These districts also accounted for nearly 70% of all the household and industrial waste deposited. Nearly a quarter of all the landfilled construction and demolition waste was deposited at sites in the district of South Northamptonshire, as was nearly 15% of all the household and industrial waste. The district of South Northamptonshire only had one major landfill site licensed for household and industrial waste.

Table 16. Waste type deposited at sites within Northamptonshire by district (tonnes)

	Corby	*Daventry*	*East Northamptonshire*	*Kettering*	*Northampton*	*South Northamptonshire*	*Wellingborough*	*Total*
Household, clinical, animal carcasses	78,952	96,466	0	60,917		22,021	72,178	330,534
Construction and demolition	261,283	84,906	199,302	88,356	34,400	409,495	102,841	1,180,583
Special	56,034	2,578	0	588	0	8,075	1,515	68,790
Difficult	13,961	33,661	0	199	0	1,254	5,371	54,446
Waste tyres	0	0	0	0	0	2,029	67	2,096
Liquid	6,102	2,267	0	0	0	2,262	995	11,626
Other industrial and commercial	334,546	208,436	0	25,201	0	124,221	14,765	707,169
District total	750,878	428,314	199,302	175,261	34,400	569,357	197,732	2,355,244

Nottinghamshire

Of 40 licensed landfill sites, 32 were operational and received a total of 2.8 million tonnes of controlled waste in 1995/96. Approximately 97% of this waste originated from within the county.

Waste types

Table 17 shows the tonnages of each type of waste deposited at sites in the county. PFA/FBA accounted for 41% of total landfilled waste deposited, with the remainder comprised of construction and demolition waste (including inert wastes) 31%, household 13%, and industrial and commercial waste 10%. The Nottinghamshire Waste Management Statement indicated 30% of sewage sludge and screenings were landfilled within the county during 1993/94, the remainder was treated and utilised on agricultural land. Power station ash was deposited mainly at dedicated sites in Bassetlaw, Rushcliffe and Newark districts. Incinerator residue from the Eastcroft incinerator was deposited at biodegradable waste landfill sites within all districts with the exception of Mansfield and Broxtowe.

There were 8 major licensed sites that received non-inert waste during 1995/96 and between them they accepted 28% of the total waste deposited. In addition, all 8 sites were licensed to accept difficult waste (including special waste) and 6 accepted incinerator ash from the Eastcroft incinerator. A further 15 sites were licensed to accept construction and inert waste.

Table 17. Waste types deposited at sites within Nottinghamshire (tonnes)

Waste types		*%*	*Number of sites accepting waste**
Household	368,708	13.08	7
Construction and demolition	870,855	30.89	22
Special	8,218	0.29	9
Difficult	75,051	2.66	3
Tyres	1,047	0.04	2
Clinical	0	0.00	0
Animal carcasses	0	0.00	0
Sewage sludges	1,511	0.05	7
Liquid	1,239	0.04	1
PFA	1,157,000	41.04	5
Incinerator residues	43,413	1.54	6
Other industrial and commercial	292,259	10.37	14
Total	2,819,301	100.00	

**Sites can accept more than one category of waste.*

Distribution of landfill sites

Most waste was deposited at sites in the districts of Bassetlaw, Gedling, Newark, and Rushcliffe; Table 18. Limited amounts of special waste (mainly bonded and fibrous asbestos) were accepted at biodegradable waste sites within all districts, with the exception of Broxtowe and Mansfield.

Table 18. Waste types deposited at sites within Nottinghamshire by district (tonnes)

Waste types	*Ashfield*	*Bassetlaw*	*Broxtowe & Gedling**	*Mansfield*	*Newark*	*Rushcliffe*	*Total*
Household	107,222	54,511	128,548	0	57,646	20,781	368,708
Construction & demolition	112,960	148,836	237,237	143,613	102,208	126,001	870,855
Special	28	1,148	6,471	0	270	301	8,218
Difficult	0	2,620	0	0	72,431	0	75,051
Waste tyres	0	1,047	0	0	0	0	1,047
Sewage sludge	19	229	1,070	0	154	39	1,511
Liquid wastes	0	0	1,239	0	0	0	1,239
PFA	0	974,000	0	0	68,000	115,000	1,157,000
Incinerator residues	8,676	497	14,495	0	8,162	11,583	43,413
Other industrial and commercial	32,715	64,130	111,666	0	57,063	26,685	292,259
District total	261,620	1,247,018	500,726	143,613	365,934	300,390	2,819,301

** Data sets merged for reasons of confidentiality under Section 66 of the Environmental Protection Act 1990.*

5.2 Waste movements to landfill

Total region

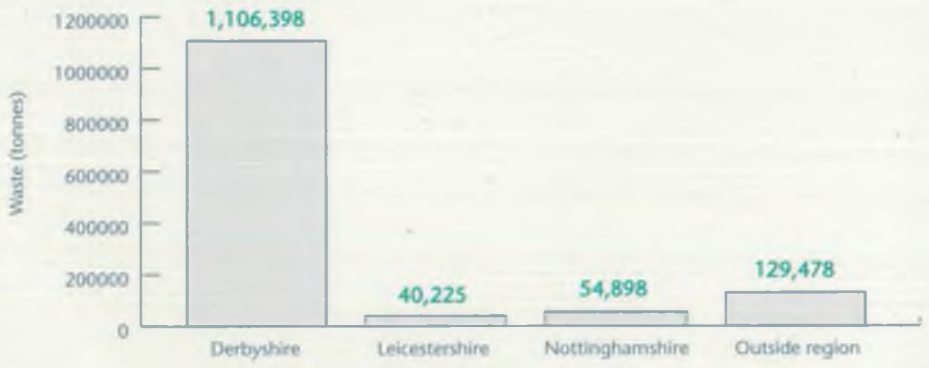
Data were not available to give a detailed analysis of waste movements to landfill in the region. For Derbyshire, Leicestershire and Nottinghamshire, estimates were made on a site-by-site basis. However, for Lincolnshire and Northamptonshire, only countywide estimates were possible.

Derbyshire

A total of 1.1 million tonnes (83%) of waste originated within the county, with the remainder arising from Nottinghamshire, Leicestershire, South Yorkshire and Greater Manchester.

Figure 1. Derbyshire: Origin of waste (tonnes)

Total waste landfilled = 1,330,999 tonnes
Total waste imported from locations in the region = 95,123 tonnes (7.1%)

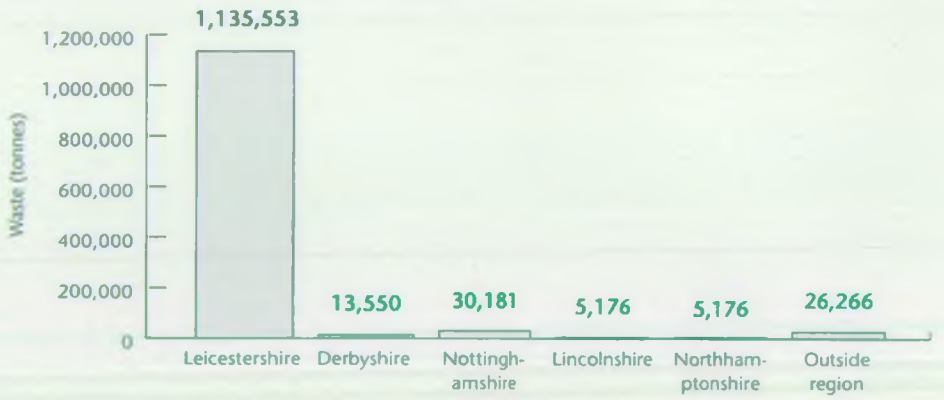


Leicestershire

A total of 1.1 million tonnes (93%) of waste originated from Leicestershire, with 80,349 tonnes (approximately 7%) imported from other counties. Waste received from outside the East Midlands Planning Region amounted to only 2% and originated from Warwickshire (Figure 2).

Figure 2. Leicestershire: Origin of waste (tonnes)

Total waste landfilled = 1,215,902 tonnes
Total waste imported from locations in the region = 54,083 tonnes (4.4%)



Lincolnshire

Although no accurate study on cross border movements have been undertaken, it is estimated that over 95% of household and industrial waste landfilled originated from within the county. The two major factors influencing waste imports of this type are the proximity of sites to the western edge of the county and to the A1 corridor, which runs down the south western edge of the county. For household waste, Lincolnshire is a net exporter, with approximately 5% transported out of the county. Conversely, Lincolnshire is a net importer of construction and demolition waste, with a possible 100,000 tonnes from a total of 597,000 tonnes imported into the county during 1995.

Northamptonshire

A survey of landfill facilities undertaken by Northamptonshire County Council in 1994, indicated that the county imported approximately 400,000 tonnes of waste. It is estimated that around 120,000 tonnes (30%) originated from outside the region. Comparison of the statistics from the Northamptonshire waste arisings survey with the disposal figures revealed that the county is a net importer of waste. It is thought that most of this waste originated from Warwickshire and Leicestershire, and was disposed of at sites on the NW edge of the county, in the districts of Corby and Daventry. The convergence of the M1, M6 and M45 in this NW area is an important factor influencing waste movements.

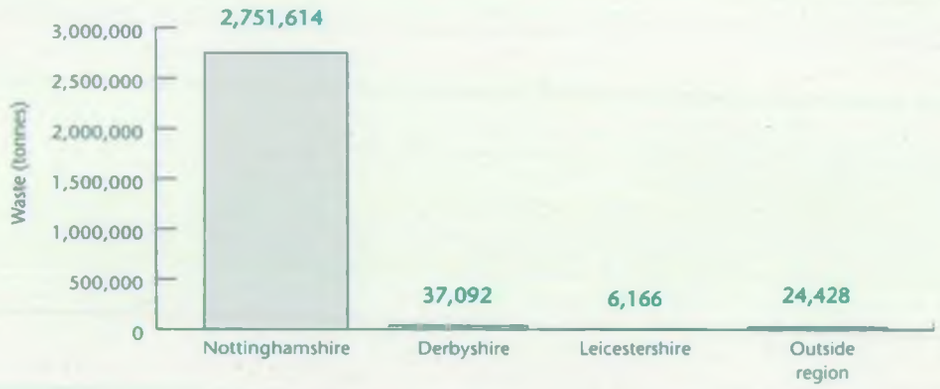
The draft Waste Local Plan for Northamptonshire indicated that in 1993/94 approximately 10,500 tonnes of household waste was exported from South Northamptonshire directly to landfill sites in Oxfordshire and Buckinghamshire. A further 65,000 tonnes (41% of collected household waste arising within the county) was exported to Buckinghamshire and Bedfordshire. The Plan also reported some imports, mainly from Leicestershire of 19,000 tonnes.

Nottinghamshire

A total 2.7 million tonnes (98%) of landfilled waste originated from within the county, with approximately 67,686 tonnes (2%) imported from other counties including 24,428 tonnes from South Yorkshire; (Figure 3).

Figure 3. Nottinghamshire: Origin of waste (tonnes)

Total waste landfilled = 2,819,300 tonnes
Total waste imported from locations in the region = 43,258 tonnes (1.5%)



6 Demand

6. Demand for Landfill Facilities

In 1995, the level of demand for landfill across the region was approximately 8.8 million tonnes, including an estimated 0.3 million tonnes imported into the region for disposal. The waste comprised:

Difficult/Special Waste	291,529	tonnes
Inert Waste	3,662,613	tonnes
Non-Inert waste	3,746,619	tonnes
PFA/FBA	1,163,079	tonnes
Total	8,863,840	tonnes

To determine the possible future demand for landfill facilities in the region, it is necessary to consider a number of factors including the potential use of landfill capacity and the consequent completion of existing landfill sites, and the licensed void capacity at existing sites.

6.1 Factors affecting future demand for landfill capacity

The major factors influencing future demand for landfill capacity are:

- changes in the nature and quantities of waste, and
- changes in the methods adopted to manage wastes.

These may be directly affected by a number of initiatives, including: **The National Waste Strategy, The Landfill Directive, Landfill Tax, and Producer Responsibility Regulations.**

The National Waste Strategy

In the White Paper "Making Waste Work", the Government set out a medium term strategy for achieving more sustainable waste management. The main objectives of the strategy are to:

- reduce the amount of waste produced
- make best use of waste that is generated
- adopt practices which minimise risks to the environment.

To deliver these objectives, the White Paper gives the following non-statutory **primary targets that directly relate to the landfilling of wastes**:

- a reduction in the proportion of controlled waste going to landfill from 70% to 60% by 2005;
- to recover 40% of municipal waste by 2005.

The above landfill diversion target excludes sewage sludge and dredged spoils. Municipal waste comprises all wastes collected by or on behalf of local authorities and includes all household waste, street cleaning waste and some commercial and trade waste. Waste recovery includes materials recycling, energy recovery and composting.

A number of **secondary targets** have also been developed to assist the attainment of the primary targets:

- to recycle or compost 25% of household waste by the year 2000;
- to increase the use of construction/demolition waste materials and certain non-controlled wastes in England from the present level of 30 million tonnes per annum to 55 million tonnes per annum by the year 2006.

Meeting targets in the East Midlands Planning Region

- a reduction in the proportion of controlled waste going to landfill from 70% to 60% by 2005

This target specifically excludes sewage sludge. Data available for the compilation of this report indicated that the East Midlands planning region generated approximately 12.8 million tonnes of waste in 1995, including power station ash. Around 8.8 million tonnes was deposited at licensed landfill sites in the region, some 8.5 million tonnes originating from within the region. There are no reliable statistics on the amount of waste exported from the region for disposal to landfill, so for the purpose of this report it is assumed that these equate with imports. This suggests therefore that approximately 8.8 million tonnes of waste generated in the East Midlands was landfilled. This accounts for 69% of all waste generated. However, many uncertainties are associated with this estimate.

The target to reduce the proportion of waste being directed to landfill nationally from 70% to 60% by 2005 would necessitate a proportional reduction of 14.3% in the quantity of wastes being landfilled. If this target reduction were to be applied to the East Midlands Region, this would equate to a decrease of approximately 1.2 million tonnes in the quantity of landfilled waste over the 10 year period 1995 to 2005, assuming that there is no significant change in waste generation over this time. This figure includes waste currently being exported to landfill sites outside the region.

- to recover 40% of municipal waste by 2005.

Capacity for incineration of municipal solid waste (MSW) is currently available only within Nottingham with a total capacity of about 150,000 tonnes per year. Present incineration capacity equates to a regional recovery rate for MSW of some 10%.

Secondary targets:

- to recycle or compost 25% of household waste by the year 2000.

Achievement of this target would result in approximately 370,000 tonnes of waste being removed from the regional household waste stream.

- to increase the use of construction/demolition waste from 30 million tonnes to 55 million tonnes by the year 2006.

The survey indicated that approximately 3.6 million tonnes of construction and demolition wastes were landfilled within the region during 1995. This figure may include some wastes imported from outside the region. However, the precise amount of this waste type directed to sites exempt from licensing is as yet unclear, as is the amount of such waste that is recovered. The amount of waste generated is therefore likely to be significantly higher than the quantity of waste being directed to landfill. If the national target of increasing the level of use of construction/demolition waste and certain non-controlled wastes in England from 30 million tonnes to 55 million tonnes was applied in the East Midlands region, a reduction in the order of 2.2 million tonnes could be required in the quantity of construction and demolition wastes being disposed of within the region at either licensed or exempt facilities by 2006.

The Landfill Directive

Since the first proposal was adopted by the European Commission in 1991, the waste management sector has been developed extensively. Advances in material technology have focused on the necessity of waste reduction and waste minimisation, and as such new elements have been introduced into the proposal. These include: reducing the landfilling of biodegradable waste; pre-treatment of waste before landfilling; and no co-disposal of hazardous and non-hazardous waste.

Proposals for a revised Directive on the Landfilling of Waste have been recently prepared to primarily ensure high standards for the disposal of waste and to stimulate waste reduction through recycling and recovery schemes. Of key importance is the creation of a level playing field for the cost of disposal which consequently will prevent the unnecessary movement of waste.

Landfill Tax

The Landfill Tax was introduced to ensure that the Best Practical Environmental Option (BEPO) is achieved for all waste streams and that disposal of wastes to landfill bears its full environmental cost. The tax is charged at two different rates. A lower rate is imposed on inactive (or inert) wastes listed in the Landfill Tax Qualifying Material Order 1996. Certain wastes arising from dredging, mining and quarrying, and contaminated land are exempt from the Landfill Tax. The effect that the Landfill Tax will have upon the types and quantities of waste being landfilled and the movement of waste up the waste management hierarchy may be reflected in the attainment of the objectives and targets set out in "Making Waste Work". Due account must also be taken of wastes being attracted to activities exempt from licensing.

Packaging Regulations

Under the EC Directive on Packaging and Packaging Waste, at least 50% of the UK's packaging waste must be re-used through recycling and other recovery methods by the year 2001. The legislation which implements this Directive is the Producer Responsibility Obligations (Packaging Waste) Regulations 1997. The aim of the Regulations is to ensure that the real environmental costs of producing, using and disposing of packaging fall directly on those who produce or use it. Targets will be reviewed in 2000 and further targets set for the next 5 years.

6.2 Landfill capacity depletion

Assessments of the depletion of existing landfill capacity are rather speculative and are influenced by:

- changes in the quantities and composition of waste seeking disposal by landfill each year;
- the projected life of each site;
- the remaining capacity at each site;
- changes in the annual input of waste to each site.

These in turn may be affected by other contributory factors:

- availability of additional landfill capacity;
- development of more sustainable methods of waste management;
- impact of waste minimisation initiatives;
- impact of Packaging Regulations;
- impact of the Landfill Tax;
- scope and scale of activities exempt from licensing;
- transport costs;
- future legislation.

The influence and interaction of the above factors will only become apparent when detailed year-on-year data are collected and analysed together with comprehensive surveys of the source and type of waste generated.

For the context of this report, the only data available are estimates of the amounts and types of waste deposited during 1995 and an estimated completion date for each site. Ideally, data relating to the remaining licensed void capacity should also be available to enable objective assessment of the adequacy of existing capacity to meet likely future demands, after taking into account the factors and uncertainties outlined above. Comprehensive void capacity data is, however, not currently available to the Agency. Work is underway to assess the remaining licensed void capacity at landfill sites within the region.

Assessments of the depletion of capacity caused by the projected closure of landfill sites accepting wastes in 1995 are therefore only capable of providing at best a broad overall indication of the scale of loss of capacity and would be speculative given the absence of data relating to remaining licensed void capacity.

6.3 Incineration Capacity

Operational and potential incineration capacity for treating household, commercial, industrial and clinical waste within the region is shown in Appendix 3. Only one major incinerator for household waste is operational within the region sited at Eastcroft, Nottingham. The draft Nottinghamshire Waste Local Plan estimated that the Eastcroft Incinerator had saved over 2.1 million cubic metres of landfill voidspace since it became operational in 1973, and estimated that it would save a further 2 million cubic metres over the following 20 years at current input rates (150,000 tonnes/year). Waste disposal site statistics indicate approximately 25% of Nottinghamshire's municipal waste was incinerated during 1995/96. Heat from the incinerator is recovered for electricity generation at the nearby London Road Heat Station and to support a district heating scheme in Nottingham City Centre. The plant has recently been upgraded; improvements included installation of a new flue gas treatment system and upgraded ash handling.

The draft Waste Local Plan commented on the proposal for the opening of a third line at Eastcroft which would potentially increase capacity for municipal waste incineration by approximately 100,000 tonnes per annum. At the present time, applications have not been submitted to the relevant authorities.

Clinical Waste Incineration

There is currently one operational clinical waste incinerator within the region at Nottingham City Hospital which mainly treats clinical waste originating from the City Hospital. All other clinical waste generated within Nottinghamshire is exported out of the region. All clinical waste originating from Leicestershire and Derbyshire is also exported for treatment outside the Region.

There are two potential clinical waste incinerators that have planning permission (Appendix 3). One facility is planned at the Eastcroft MSW incinerator and may receive clinical waste originating from within Leicestershire and Derbyshire. The facility has not yet obtained authorisation from the Environment Agency. A further clinical waste incinerator is planned for a site near Newark in Nottinghamshire, but as yet construction has not commenced.

7 Potential

7. Potential Landfill Capacity

The survey and identification of sites that could potentially be suitable for future landfill operations following the acquisition of planning consent is not within the scope of this report. This is a matter for the waste planning authorities during preparation of regional planning advice, waste local plans, and unitary development plans.

The assessment of licensed capacity remaining at existing landfill sites, and capacity at sites where planning consent exists, but where a waste management licence has not yet been issued, is relevant in the context of the work undertaken to prepare this report.

8. Further Information

For further information, please contact the Regional Waste Planning teams in Anglian Region (Telephone: 01733 371811) and Midlands Region (Telephone: 0121 711 2324), or the Tactical Planning Team in Nottingham (Telephone: 0115 945 5722) for Nottinghamshire, Derbyshire and Leicestershire or the Tactical Planning Team in Anglian Region Northern Area (Telephone: 01522 513100) for Lincolnshire and Northamptonshire.

Appendices

Appendix 1. Waste planning

Role of the Environment Agency

The Environment Agency was created to protect and enhance the environment as part of the Government's overall commitment to sustainable development. The Agency plays a central role in putting environmental policies into practice, and as such is a key player in the delivery and development of the Government's medium term non-statutory strategy set out in the White Paper "Making Waste Work". Furthermore, the Agency will advise Government on the development of a National Waste Strategy and improve availability of information relating to waste management. The Agency also has a complementary role in the promotion of waste minimisation.

Liaison with Local Authorities

Recognising that it shares with local government a commitment to protect and enhance the environment and to promote sustainable development, the Agency has signed a Memorandum of Understanding designed to establish a lasting framework for consultation and co-operation. The memorandum sets out a non-exhaustive list of example areas where the Agency shares responsibilities with local authorities. The list includes flood defence, water resource management, planning matters, contaminated land, air quality, waste management planning and recycling and waste minimisation.

Given the complimentary roles of local authorities and the Agency in waste management planning, the Agency must take account of the information requirements of the waste planning authorities when planning and conducting surveys and studies relating to wastes and in the future development and management of information systems.

Planning Policy Guidance (PPG 10)

The final draft revision of Planning Policy Guidance Note 10 (PPG 10) (February 1998) on waste disposal and management recommends the setting up of regional technical groups comprising the waste planning authorities, the Environment Agency, the waste management industry and other interested organisations. The regional technical groups would assess waste generation data provided by the Agency, likely future trends and the need for waste management facilities within the region, taking into account existing waste management capacity and the interaction with other regions.

The final draft PPG 10, states that each regional technical group should develop a regional strategy on how the waste generated in the area can best be dealt with. Each group should identify sufficient facilities for managing wastes within the region.

Regional Planning Guidance for the East Midlands Region (RPG 8)

Regional Planning Guidance, issued by the Secretary of State for the Environment, was produced in response to the advice received from the East Midlands Forum of Local Authorities in February 1992. The primary purpose of the guidance is to set the framework for development plans within the region.

The Guidance highlights the reliance placed on landfill for the disposal of controlled waste arising in the region.

The Guidance concluded that:

- development plans should make provision to meet expected requirements for landfill;
- in urban areas, incineration coupled with energy recovery should be considered as an alternative disposal option;
- requirements for special facilities should be included in development plan policies where a need has been identified, e.g. the disposal of hazardous wastes.

The Guidance stresses the need for local authorities to continue to review their development plan policies and to monitor them closely to assess their effectiveness. The Guidance emphasises the need to monitor waste disposal so that a balanced pattern of mineral extraction and waste disposal will meet both Regional needs and national policies.

Appendix

Environment Agency Initiatives in Relation to Waste Planning

The Agency has commenced a number of initiatives to improve the availability and quality of information relating to wastes, and the development of methods designed to assist the identification of the Best Practical Environmental Option for particular waste streams. These include:

- the development of a national waste classification scheme;
- a national survey of wastes produced by the industrial and commercial sectors;
- the development of a national waste database;
- the development of a national template for site returns and a supporting database system;
- the development of software to support the monitoring of special wastes;
- research into the types and quantities of wastes being handled by exempt activities; and
- research which seeks to apply Life Cycle Assessment techniques to the treatment, management and disposal of controlled wastes.

Appendix 2.

Licensed Landfill Sites within the East Midlands Region

Derbyshire

Licence No.	*Site Name & Address*	*Site Operator*	*District*	*Grid Ref.*
LC 03	Hilts Quarry, Crich	Rolls Royce Plc	Amber Valley	SK 354,542
LH 07	Coxbench Quarry, Coxbench Rd, Derby	QDF Components	Amber Valley	SK 375,433
LR 19	Butterley Brickworks Quarry, Whitley Ripley	Butterley Building Materials	Amber Valley	SK 405,488
LS 20	Birchwood Lane, Somercotes	Birchwood Concrete	Amber Valley	SK 430,544
LA 04	Roughclose Works, Alfreton	Exchem	Bolsover	SK 424,571
LE 10	Disused Rlwy Cutting, Hazlemere Rd Greswell	NAL Plant	Bolsover	SK 511,747
LG 19	Waste Disposal Site, Palterton Ln Glapwell	Derbyshire Waste	Bolsover	SK 464,671
LS 60	Leen Valley Branch Line, Wood Lane	R W Rotel	Bolsover	SK 521,671
LS 45	Hall Lane, Staveley	Derbyshire Waste	Chesterfield	SK 427,754
LS 84	Former Dixon OCCS, Staveley Works	Stanton PLC	Chesterfield	SK 403,744
LD 01	Chaddesden Sidings, Chequers Rd Derby	Redland Aggregates	Derby City	SK 367,354
LD 18	Megalaughton Lane, Derby	Courtalds Acetate	Derby City	SK 394,354
LA 06	Gate Farm, Sturston	O.Pilkington	Derbys Dales	SK 194,460
LB 41	Holmebank Quarry, Bakewell	Smiths Runners Ltd	Derbys Dales	SK 213,693
LB 52	Disused Quarries, Hipley Wks Brassington	Ashbourne Waste	Derbys Dales	SK 217,540
LB 83	Outlands Head Qry, Outlands Head Bradwell	Walker Minerals Ltd	Derbys Dales	SK 166,807

Appendix

Licence No.	*Site Name & Address*	*Site Operator*	*District*	*Grid Ref.*
LB 88	Shuttle Rake, Hucklow Moor Tideswell	Nether Water Plant	Derbys Dales	SK 151,794
LB 95	Scrin Rake, Berrystall Lodge Bradwell	B Fletcher	Derbys Dales	SK 157,799
LC 71	Slinter Top Quarry, Cromford	Slinter Mining Co.	Derbys Dales	SK 285,569
LH 12	DSF Refractories, Friden Pit Newhaven	DSF Refractories	Derbys Dales	SK 166,605
LH 49	ECC Building Prods., Hulland Ward	ECC Building Prods.	Derbys Dales	SK 260,454
LH 64	Custard Fields, Hartington	D A Nuttall	Derbys Dales	SK 134,634
LM 01	Disused Mineral Working W of Arbor Low Works Youlgrave	Derbyshire Aggregates	Derbys Dales	SK 167,640
LM 05	Disused Dam Tansley Wood Mills Youlgrave	F H Drabble & Sons	Derbys Dales	SK 319,602
LM 25	Tearsall Farm Site, Bonsall Moor Matlock	Slinter Mining Co	Derbys Dales	SK 262,599
LM 40	Lumshill Quarry, Chesterfield Rd. Matlock	Leigh Environmental	Derbys Dales	SK 316,613
LS 26	Birchwood Quarry, Cockshead Lane Ashbourne	Derbyshire Waste	Derbys Dales	SK 153,412
LS 28	Land off Black Harry Lane Stoney Middleton	J A Warren	Derbys Dales	SK 210,745
LT 12	Five Wells Farm, Flagg Bakewell	A Buttrill	Derbys Dales	SK 125,707
LT 15	White Rake, Tideswell Moor Tideswell	High Peak Skip Hire	Derbys Dales	SK 145,782
LW 08	Middle Hay, Wardlow	S Swain	Derbys Dales	SK 177,734
LY 03	Long Rake, Youlgrave	Long Rake Spar Co	Derbys Dales	SK187,642
LL 03	Ford Lane, Little Eaton Derby	A E Hibbs & Sons	Erewash	SK 363,404
LS 16	Grove Farm Tip, Stanton By Dale	Stanton PLC	Erewash	SK 454,388
LH 39	Hope Cement Works, Hope	Blue Circle Ind.	High Peak	SK 173,828

Licence No.	*Site Name & Address*	*Site Operator*	*District*	*Grid Ref.*
LA 12	Hodge Lane, Uppertown	Yewstop Ltd	NE Derbys	SK 309,652
LA 26	Peasunhurst Quarry, Ashover	M A Yates	NE Derbys	SK 314,664
LC 25	Brassington Lane, Clay Cross	Biwater Industries	NE Derbys	SK 396,644
LD 27	William Lee Ltd, Callywhite Ln Dronfield	William Lee Ltd	NE Derbys	SK 366,780
LE 06	British Steel Plc, Renishaw Foundary	British Steel Plc	NE Derbys	SK 447,782
LE 42	Slitting Mill, Renishaw	Hopkinson Reclm	NE Derbys	SK 440,770
LK 13	Killamarsh Screen Mound Norwood Industrial Est Killamarsh	Leigh Environmental	NE Derbys	SK 465,820
LS 88	Old Railway Cutting Opp Railway Cottages Bolsover	Coalite Smokeless Fuel Servs.	NE Derbys	SK 455,709
LS 31	Ingleby Lane, Swarkstone	National Power	S. Derbys	SK 358,276
LS 49	Bretby 1, Main Street, Newhall, Swadlincote, Derbyshire	Derbyshire Waste	S. Derbys	SK 280,231
LS 50	Elvaston Quarry, Bellington Hill Derby	Biffa Waste Services	S. Derbys	SK 425,310
LS 51	Bretby 2, Main St Newhall Swadlincote	Derbyshire Waste	S. Derbys	SK 280,210
LW 45	Repton Rd Willington	National Power	S. Derbys	SK 287,273

Appendix

Leicestershire

Licence No.	*Site Name & Address*	*Site Operator*	*District*	*Grid Ref.*
46	Barrow Hill Quarry, Mill Ln, Potters Marston	Camas Aggs Ltd	Blaby	SP 487,982
94	Huncote Quarry, Forest Rd, Huncote	Acresford S & G	Blaby	SP 514,978
105	Enderby Warren, Desford Rd, Enderby	Mid Land Recl Ltd	Blaby	SK 542, 203
117	Narborough Quarry, Huncote Rd, Narborough	Mid Land Recl Ltd	Blaby	SP 525,976
386	Gees Lock, Gee Lock, Glen Parva	British Waterways	Blaby	SP 557,990
66	Sandfield Quarry, Station Rd, Cropston	Swithland S & G	Charnwood	SK 566,125
137	Syston, Broome Ln, E Goscote	Acresford S & G	Charnwood	SK 623,124
153	Cossington, Syston Rd, Cossington	Wanlip Gravels	Charnwood	SK 598,131
159	Shepshed, Ashby Rd, Shepshed	Charnwood Brick	Charnwood	SK 478,182
98	Dunton Basset, Leire Ln, Dunton Basset	Leicester Landfill	Harborough	SP 543,902
166	Frolesworth Rd, Froles. Rd, Lutterworth	Shirley's Skip Hire	Harborough	SP 505,880
186	Slip Inn, Leicester Rd, Dunton B	Bruntingthorpe Gravels	Harborough	SP 548,892
255	Cotesbach, Gibbet Ln, Shawell	Redland Agg	Harborough	SP 540,810
271	British Waterways, Grand Union Canal	British Waterways	Harborough	SP 649,853
323	Kibworth Top Lock, Kib. Top Lock, Kibworth	British Waterways	Harborough	SP 656,944
193	Burbage, Off Elm Tree Drive	F E Downes	Hinkley/Bosworth	SP 440,938
199	Bradgate Quarry, Leicester Rd, Groby	Greenways	Hinkley/Bosworth	SK 512,088
254	Desford Brickworks, Heath Rd, Bagworth	Butterley Brick Ltd	Hinkley/Bosworth	SK 426,066
176	Lewisher Rd, Lewisher Rd, Leicester	Gipsy Lane BWs	Leicester City	SK 617,071
247	Bath St Dredging Tip, Bath St, Leicester	British Waterways	Leicester City	SK 599,078

Licence No.	*Site Name & Address*	*Site Operator*	*District*	*Grid Ref.*
5	Bescaby, Bescaby, Watham	Midland Land Reclamation Ltd.	Melton	SK 815,253
49	Welby Tip, Holwell Works, Asfordby	Stanton Staveley	Melton	SK 730,207
19	Measham, Gallows Ln, Measham	TI (Desford) Tubes	NW Leics	SK 338,107
45	Red Bank , Atherstone Rd, Measham	Red Bank Man Co	NW Leics	SK 336,109
52	Ellistown, Terrace Rd, Ellistown	Hepworth BPs	NW Leics	SK 435,106
53	Ibstock Clay Pit, Leicester Rd, Ibstock	Ibstock Brick	NW Leics	SK 415,110
96	Woodville Works, Off A50, Woodville	Hepworth BPs	NW Leics	SK 314,178
164	Ryecroft Rd, Ryec. Rd, C Donnington	Powergen PLC	NW Leics	SK 460,290
167	Cavendish Bridge, Ryec. Rd, C Donnington	Powergen PLC	NW Leics	SK 447,295
300	Hemington Dr Tip, Tamworth Rd, Hemington	British Waterways	NW Leics	SK 463,305
316	Lount, Off A453, Lount	Midland Land Reclamation Ltd.	NW Leics	SK 382,187
380	Butterley Brick , Mill Lane, Heather	Butterley Brick Ltd	NW Leics	SK 389,094
285	Kilby Bridge, Kilby Brid. Lock, Wigston	British Waterways	Oadby/Wigston	SP 602,970
102	Ketton Quarry, Stamford Rd, Ketton	Castle Cement Co	Rutland	SP 902,058
146	Woolfox Quarry, Off B668, Greetham	Bullimores S & G	Rutland	SK 951,136
152	Luffenham, Luffenham Rd, Morcott	Midland Land Reclamation Ltd.	Rutland	SK 927,017

Appendix

Lincolnshire

Licence No.	*Site Name & Address*	*Site Operator*	*District*	*Grid Ref.*
L238	Boston Landfill	Lincwaste Ltd.	Boston	TF 348,413
L036	Anchor Lane, Ingoldmells	Blue Anchor Leisure Ltd.	E Lindsey	TF 560,696
L062	Top Pit, Biscathorpe	Mr H.W. Smith	E Lindsey	TF 229,858
L064	Part OS. Plot 6068 Lodge Rd. Tattershall	Roger Windley Ltd.	E Lindsey	TF 195,597
L069	Candlesbury Hill Quarry	R.P. Smith Farms	E Lindsey	TF 457,683
L123	Tattershall Thorpe Plots 56 & 73	Woodhall Spa S & G	E Lindsey	TF 225,602
L152	Scotland House Reservoir	Anglian Water Services Ltd.	E Lindsey	TF 407,728
L194	Saturday Pits, Kenwick Rd. Louth	Mr. R.N Howell	E Lindsey	TF 340,852
L240	Kenwick Quarry Landfill	Lincwaste Ltd.	E Lindsey	TF 338,842
L241	Kirby on Bain Landfill	Lincwaste Ltd.	E Lindsey	TF 234,615
L243	Middlemarsh Landfill	Lincwaste Ltd.	E Lindsey	TF 537,635
L288	Mill Paddock, Hallington	P & D Grantham Bros Ltd.	E Lindsey	TF 302,854
L289	Riverslea Landfill	Woodhall Spa S & G	E Lindsey	TF 238,614
L011	Smith Clayton Forge	Smith Clayton Forge	Lincoln	SK 997,712
L012	Spike Island Landfill	Beevor Foundry Ltd.	Lincoln	SK 959,714
L014	Albion Works Landfill	Serviceteam Ltd.	Lincoln	SK 966,725
L029	Fischers, Parcel 1224, Station Rd	George Fischer (Lincoln) Ltd.	N Kesteven	SK 931,672
L051	Brauncewell Quarry	Braucewell Quarries Ltd.	N Kesteven	TF 026,517
L055	Hykeham Quarry Landfill	Midland Land Reclamation Ltd.	N Kesteven	SK 930,675

Licence No.	*Site Name & Address*	*Site Operator*	*District*	*Grid Ref.*
L063	Longwood Quarry	Longwood Quarries Ltd.	N Kesteven	TF 061,590
L072	Harmston Quarry	C.A. Mottram & Sons	N Kesteven	SK 995,618
L105	Bardney Sugar Beet Factory	British Sugar Plc.	N Kesteven	TF 114,682
L106	Land adjacent to A46 Moor Lane	Mr. M.H. Hazlewwod	N Kesteven	SK 917,663
L119	Richmond Lakes	Len Kirk Plant Hire Ltd.	N Kesteven	SK 944,676
L144	Canwick Sewage Treatment Works	Anglian Water Services Ltd.	N Kesteven	SK 980,690
L199	Boiling Wells Farm, Sleaford	Morrison Construction Ltd.	N Kesteven	TF 047,453
L206	Fiddlers Elbow Dredging Tip	British Waterways	N Kesteven	SK 937,731
L233	Hykeham Sand & Gravel Quarry	Butterley Aggregates Ltd.	N Kesteven	SK 930,665
L242	Leadenham Landfill Site	Lincwaste Ltd.	N Kesteven	SK 964,524
L245	Whisby Landfill	Lincwaste Ltd.	N Kesteven	SK 894,665
L258	Whisby Quarry	Redland Aggregates Ltd.	N Kesteven	SK 897,671
L228	Surfleet Bank, Gosberton Marsh	Birse Construction Ltd.	S Holland	TF 274,305
L080	Manor Pit, Baston	F.B.Gibbons & Sons Ltd.	S Kesteven	TF 125,140
L092	Spalding Road, Bourne	Chase Grove Ltd.	S Kesteven	TF 120,200
L101	Warren Landfill	Bullimores Sand & Gravel	S Kesteven	TF 022,174
L174	Tarmac Concrete, Tallington	Tarmac Precast Concrete Ltd.	S Kesteven	TF 097,094
L209	Langtoft Outgang Road	ARC Ltd.	S Kesteven	TF 138,138
L244	Stainby Landfill Site	Lincwaste Ltd.	S Kesteven	TF 898,243

Appendix

Licence No.	*Site Name & Address*	*Site Operator*	*District*	*Grid Ref.*
L260	Crane Test Site, Autumn Park, Grantham	Autumn Park Ltd.	S Kesteven	SK 907,350
L263	Colsterworth Landfill	Lincwaste Ltd.	S Kesteven	SK 905,243
L078	Kettleby Quarry	J.W. Hurdiss Ltd.	W Lindsey	TA 037,080
L082	Mansgate Hill Quarry	J.W. Hurdiss Ltd.	W Lindsey	TA 123,002
L142	Nettleton Bottom Quarry	Tioxide Europe Ltd.	W Lindsey	TF 126,982
L185	Part OS 9086 Lea Rd.	Mr. J.C. Hewitt	W Lindsey	SK 819,880
L239	Gainsborough Landfill	Lincwaste Ltd.	W Lindsey	SK 815,878
L299	Part of OS 9086 Lea Rd. Gainsborough	Mr. J.C. Hewitt	W Lindsey	SK 819,880

Northamptonshire

Licence No.	Site Name & Address	Site Operator	District	Grid Ref.
C17	North Bank of North Brook Corby	British Steel Corporation	Corby	SP 900,910
C20	Deene Quarry	Corby Borough Council	Corby	SP 910,915
C24	Corby Landfill	Midland Land Reclamation Ltd.	Corby	SP 916,884
C25	Weldon Landfill	Shanks & McEwan Ltd.	Corby	SP 922,886
D15	Welford Quarry	Biffa Waste Services Ltd.	Daventry	SP 664,772
D18	Harlestone Quarry	Barton PLant Ltd.	Daventry	SP 710,638
D46	Boughton Quarry	Peter Bennie Ltd.	Daventry	SP 747,655
D47	Dodford Former Sandpit	Churchill Waste Mgt. Ltd.	Daventry	SP 625,615
D64	Elderstubbs Farm	John Moser	Daventry	SP 550,626
D67	Scaldwell Rd. Brixworth	Nene Valley Waste Ltd.	Daventry	SP 755,716
D72	Newhouse Farm	W. Towers	Daventry	
D73	Grove Farm, Kilsby	Hales Waste Control	Daventry	SP564,695
D74	Grand Union Canal Yelvertoft	British Waterways	Daventry	SP 604,746
E43	Collyweston Quarry	Bullimores Snad & Gravel	E Northants	SK 995,012
E46	Stanwick Quarry	ARC Eastern Ltd.	E Northants	SP 957,706
E60	Disused Railway Cutting, Warmington	BDS	East Northants	TL 060,912
E77	Tansor Lakes	W & T Developments Ltd.	East Northants	TL 050,924
E81	Kings Cliffe Works	KSR International Ltd.	East Northants	TL 021,980
K2	Storefield	Cleansing Services Group	Kettering	
K8	Pipewell Rd. Desborough	Barton Plant Ltd.	Kettering	

Appendix

Licence No.	*Site Name & Address*	*Site Operator*	*District*	*Grid Ref.*
K12	Newton Pit	Barton Plant Ltd.	Kettering	
K33	Storefield Lodge, Rushton	Cleansing Services Group	Kettering	SP 848,836
K44	Weekley Wood Lane	The Boughton Estates Ltd.	Kettering	SP 870,814
K47	Weekley Wood Lane	The Boughton Estates Ltd.	Kettering	SP 870,814
K48	Glenhill Farm, Rothwell	Springfir Estates Ltd.	Kettering	SP 830,812
K58	Cranford St. John	Nene Valley Waste	Kettering	SP 935,766
N32	Clifford Hill	Pioneer Aggregates Ltd.	Northampton	
N34	Ecton Lakes	Barton Plate	Northampton	
N41	Clifford Hill Quarry, Little Houghton	Pioneer Aggregates Ltd.	Northampton	SP788,594
S2	Tattersall Foundries	Tattersall Alloy Castings Ltd.	S Northants	SP 690,494
S3	Old Quarries, Silverstone	Linnel Bros. Ltd.	S Northants	SP 691,440
S10	Pury End Quarry	D. A. Bird Ltd.	S Northants	SP 707,459
S13	Old Quarry, Roade	Pianoforte Supplies	S Northants	SP 755,510
S40	Milton Sand Quarry, Kislingbury	Pioneer Aggregates Ltd.	S Northants	SP 703,576
S57	Yardley Gobion	British Waterways	S Northants	
S62	Wooton Quarry	Sandspinners Ltd.	S Northants	SP 763,555
S64	Milton Malsor	Weldon Plant	S Northants	SP 728,558
S81	Field West of Cuttlemill Engineering, Towcester	Mr. H. Weissang	S Northants	SP717,465
S83	Chapel Farm	J.S. Cowley Ltd.	S Northants	
S89	Pury End Quarry Extension	D. A. Bird Ltd.	S Northants	SP 708,458

Licence No.	*Site Name & Address*	*Site Operator*	*District*	*Grid Ref.*
S100	Burgess Farm, Middleton Cheney	Mr. Barrett	S Northants	SP 516,407
S95	Land West of Passenham	St. Albans Sand & Gravel Co. Ltd.	S Northants	SP770,390
S106	Wooton Quarry	Sandspinners Ltd.	S Northants	SP 763,555
S107	Milton Malsor	Gallifords	S Northants	
W20	Former Gravel Pit, Ecton	Barton Ltd.	Wellingborough	SP840,617
W25	Ditchford Pit 1	ARC Central Ltd.	Wellingborough	SP915,673
W33	Sywell Range	Mr. B. Muttock	Wellingborough	SP820,695
W41	Sidegate Lane, Finedon	Nene Valley Waste Ltd.	Wellingborough	SP914,701

Nottinghamshire

Licence No.	Site Name & Address	Site Operator	District	Grid Ref.
114	Fulwood Ind Est, Fulwood	DNS Magfem	Ashfield	SK 467,575
132	Sutton Landfill, Huthwaite Rd. Sutton	WasteNotts Ltd.	Ashfield	SK 474,582
201	Sutton Quarry, Cauldwell Rd. Sutton	Midland Land Rec	Ashfield	SK 518,587
1	Lords Wood Quarry, Harworth	G H Wadsworth	Bassetlaw	SK 626,907
45	Cottam Power Stn, Cottam nr Retford	Powergen	Bassetlaw	SK 825,795
112	Daneshill, Sutton cum Lound	WasteNotts Ltd.	Bassetlaw	SK 680,865
170	Carlton Forest Quarry, Carlton Forest Worksop	Greenways	Bassetlaw	SK 602,822
176	Serlby Quarry, Serlby Rd, Serlby	Caird Env. Ltd	Bassetlaw	SK 629,904
207	Scrooby Quarry, Scrooby Top	Rotherham S&G	Bassetlaw	SK 657,899
230	Lipdawn, Common Lane, Ranskill	Lipdawn Ltd	Bassetlaw	SK 662,879
241	Rampton Gravel Pit, Torksey Ferry Road	Powergen	Bassetlaw	SK 819,784
250	Boynton Bros, Access Rd, Ranskill	Boynton Bros	Bassetlaw	SK 666,874
289	West Bank, Marton	Br. Waterways	Bassetlaw	SK 830,813
317	Bole Ing, West Burton	Eastern Generation	Bassetlaw	SK 805,875
330	Chesterfield Canal, Babworth	Br. Waterways	Bassetlaw	SK 691,815
369	Lound Quarry, Chainbridge Ln Lound	Powergen	Bassetlaw	SK 697,847
183	Bramcote Quarry, Coventry Lane Bramcote	Biffa	Broxtowe	SK 503,387
113	Burntstump, Ollerton Rd. Arnold	Greenways	Gedling	SK 589,499
194	Bestwood Quarry, Park Rd, Bestwood	Biffa	Gedling	SK 565,480
211	Dorket Head, Dorket Head, Arnold	WasteNotts Ltd.	Gedling	SK 597,473
352	Berry Hill Quarry, Berry Hill Mansfield	Mansfield Sand	Mansfield	SK 548,599

Licence No.	*Site Name & Address*	*Site Operator*	*District*	*Grid Ref.*
402	Vale Rd Quarry, Vale Rd. Mans. Wdhouse	Midland Landfill	Mansfield	SK532,650
117	Fiskerton, Fiskerton Rd. Southwell	WasteNotts Ltd	Newark/Sherwood	SK 726,528
38	Muskham Rd, Muskham Rd Newark	British Sugar	Newark/Sherwood	SK 796,552
85	North Scarle Lagoons, Wigsley Rd North Scarle	Powergen	Newark/Sherwood	SK 846,686
185	Plot 1656, Muskham Rd Newark	British Sugar	Newark/Sherwood	SK791,555
198	Bilsthorpe, Brailwood Rd. Bilsthorpe	WasteNotts Ltd	Newark/Sherwood	SK 658,606
246	Coneygre Farm, Hoveringham	CF & MJ Lee	Newark/Sherwood	SK 705,481
279	Cromwell Quarry, Cromwell	Br. Waterways	Newark/Sherwood	SK 804,621
303	Girton Quarry, Girton	Powergen	Newark/Sherwood	SK 821,683
305	Staple Quarry, Grange Lane Cotham	British Gypsum	Newark/Sherwood	SK 804,488
351	Hazelford Lock, Hazelford	Br. Waterways	Newark/Sherwood	SK 729,492
357	Baulker Lane, Baulker Lane Clipstone	Bowring Transport	Newark/Sherwood	SK 598,629
386	Gunthorpe Lock, Gunthorpe	Br. Waterways	Newark/Sherwood	SK 688,439
450	Girton Quarry, Girton	National Power	Newark/Sherwood	SK 824,678
27	Barnstone, Works Lane Barnstone	WasteNotts Ltd	Rushcliffe	SK 743,349
195	Bunny Quarry, Loughboro Rd Bunny	Safewaste UK Ltd	Rushcliffe	SK 578,287
243	Winking Hill, Ratcliffe on Soar	Powergen	Rushcliffe	SK 501,291
356	Winking Hill, Ratcliffe on Soar	Powergen	Rushcliffe	SK 505,290

Appendix 3.

Incinerator Capacity within the East Midlands Region

Operational Capacity

Site Name & Address	*Site Operator*	*District*	*Throughput*
Eastcroft Incinerator Incinerator Road, Nottingham	Global Environmental Waste Management Services	Nottingham City Council	2 x 11.5 tonnes/hr.
Nottingham City Hospital Edwards Lane, Nottingham	Nottingham City Hospital NHS Trust	Nottingham City Council	2 x 4 tonnes/day

Potential Capacity

Site Name & Address	*Site Operator*	*District*	*Throughput*
Eastcroft Incinerator Incinerator Road, Nottingham	White Rose Environmental Ltd.	Nottingham City Council	> 50 kg/hr 6
Land at Bowbridge Lane Newark	Kenilworth Estates Ltd.	Newark and Sherwood District Council	1,000 kg/hr6

MANAGEMENT AND CONTACTS:

The Environment Agency delivers a service to its customers, with the emphasis on authority and accountability at the most local level possible. It aims to be cost-effective and efficient and to offer the best service and value for money.

Head Office is responsible for overall policy and relationships with national bodies including Government.

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For general enquiries please call your local Environment Agency office. If you are unsure who to contact, or which is your local office, please call our general enquiry line.

ENVIRONMENT AGENCY GENERAL ENQUIRY LINE
0645 333 111

The 24-hour emergency hotline number for reporting all environmental incidents relating to air, land and water.

ENVIRONMENT AGENCY EMERGENCY HOTLINE
0800 80 70 60

ENVIRONMENT AGENCY

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