

# WASTE TABLES

## INTERPRETING THE TABLES

Planning Policy Statement 10 indicates that Regional Spatial Strategies should provide waste arisings forecasts to support the development of local waste management and planning strategies. The data required can be summarised as annual tonnage forecasts for Municipal Solid Waste (MSW) and Commercial & Industrial waste (C&I) to the district level. These forecasts should “avoid spurious detail” and be based on reasonable scenarios and use the best available data. The plan extends this approach, and includes estimated requirements for treatment/recycling capacity and landfill. The tables have been presented in several ways for this consultation version of the plan .

This Annex contains tables of forecasts for five waste streams; MSW (Table C1), C&I (C2), Construction and Demolition (C3), Agricultural (C4) and Hazardous waste (C5). Full details of how the forecasts were calculated and the assumptions utilised are set out in the “RTAB waste data spreadsheet”. This is available as a functional Excel spreadsheet from the YHA.

Difficulties in acquiring sufficiently detailed or differentiated data have dictated the contents and suggested approach to utilising the tables. Table C1 and C2 set out maximum landfilling tonnages. It is logical that the remaining waste will need to be recycled or have value recovered from it by some other means. While the minimum recycling tonnages targets are listed, it will be for local waste strategy to determine the choice of management technology and, therefore, the precise split between recycling and recovery.

It should be noted that current landfill capacity is expressed in cubic metres. To convert from tonnes to cubic metres multiply by 0.769 (inert waste) or 1.2 (non inert waste)

### TABLE C1 – MUNICIPAL SOLID WASTE (see page C3)

Five forecast scenarios were considered for Municipal Solid Waste. Table C1 is based on two of those scenarios; #1 (historical local authority growth) and #3 (Defra advised 3% growth rate). These scenarios capture the full range of forecasted tonnages. North Yorkshire County Council is combined of 7 Waste collection authorities plus waste from Civic Amenity (CA) sites. The CA waste is not a separate authority, but waste arisings for this have been separately forecasted.

“Treatment” and landfill requirements are based on the recovery targets set out in the Waste Strategy 2000.

2005	40% Recovery
2010	45% Recovery
2015	67% Recovery

As recovery includes recycling and alternative disposal treatments, the recovery rates have been applied to the “Treatment capacity” requirements uniformly across the Region and therefore anything that is not recovered is counted as “landfill” capacity requirements. However, there could be a higher landfill requirement depending on the treatment facilities/mix chosen by Authorities.

TABLE C2 – COMMERCIAL AND INDUSTRIAL WASTE (see page C5)

Regional Econometric Modelling carried out by the YHA and Yorkshire Futures has been used to inform developing several components of RSS. The forecasts for commercial and industrial waste are based in part upon levels of activity in the regional economy. Two scenarios from the Regional Econometric Model have been utilised; Scenario A (Historic trend) and Scenario C (aspirational Sectoral change and impact of major schemes).

As these forecasts for C&I waste are based upon already modelled data supplied by the Environment Agency, the district based figures for waste should be treated with caution.

The only targets set for commercial and industrial waste is a non-statutory target to reduce the C&I waste arisings produced in 1998 to 85% by 2005 in the National Waste Strategy. The second C&I survey and forecast indicates that the Region decreased waste arisings to 93%. Therefore to reach the 85% target, a further application of 91% is required and has been applied consistently to reach the 85% target.

TABLE C3 – CONSTRUCTION &amp; DEMOLITION WASTES (see page C7)

Information from the Environment Agency states that 93% of construction and demolition Waste is either recycled or put to beneficial use. Much of the reuse of the waste takes place on exempt or unlicensed sites, there is therefore no accurate monitoring data. For purposes of the plan the 93% estimation is expected to continue.

TABLE C4 – AGRICULTURAL WASTE (see page C7)

Agricultural waste has not been provided with a required treatment capacity. Agricultural Waste is considered to be managed on farm or recyclable material dealt with in conjunction with manufacturers. At the moment, no additional waste is considered to go to landfill from this source. However, in light of recent changes and updates to agricultural waste regulations, this may need reviewed. The figure is therefore provided as a context.

TABLE C5 – HAZARDOUS WASTE (see page C7)

Hazardous Waste was forecasted at a Regional Level. Sub regional forecasts have been calculated by applying average ratios. The average ratios are as follows:

Humber	14%	South Yorkshire	35%
North Yorkshire	6%	West Yorkshire	45%

Information was sourced from Environment Agency "Hazardous Waste production Trends by sub region 1998/9-2003". Landfill capacity requirements for special waste is calculated using the percentage landfilled in 2003. It has been assumed that the increase in waste will not affect the overall percentage of landfill. Treatment required capacities have been calculated from this figure.

TABLE C1 – MUNICIPAL SOLID WASTE													
	WASTE FORECASTS				CAPACITY REQUIREMENTS <sup>16</sup>								
	Tonnes to be managed per annum 2005	Annual Tonnes to be managed by 2015	Annual Tonnes to be managed by 2021	Current Landfill Capacity (Total M3 non-inert)	Landfill capacity required for 2005	Landfill capacity required for 2015	Landfill capacity required for 2021	Total treatment capacity required for 2005	Total treatment capacity required for 2015	Total treatment capacity required for 2021	Maximum Tonnage to be Recycling 2005/6	Maximum Tonnage to be Recycling by 2015	Maximum Tonnage to be Recycling by 2021
					60%	33%	33%	40%	67%	67%	(LA Target 18-33%)	Min 33%	Min 33%
					Range of tonnage/annum	Range of tonnage/annum	Range of tonnage/annum	Range of tonnage/annum	Range of tonnage/annum	Range of tonnage/annum	Range of tonnage/annum	Range of tonnage/annum	Range of tonnage/annum
Region TOTALS	2,878,000 - 3,110,000	2,944,000 - 4,180,000	3,224,000 - 4,991,000	75,303,692	1,727,000 - 1866,000	972,000 - 1,379,000	1,064,000 - 1,647,000	1,151,000 - 1,244,000	1,972,000 - 2,801,000	2,160,000 - 3,344,000	1,064,000 - 1,647,000	972,000 - 1,379,000	1,064,000 - 1,647,000
Humber sub region	585,000	782,000 - 787,000	932,000 - 939,000	18,209,164	351,000	258,000 - 259,700	307,600 - 309,900	234,000	523,900 - 527,300	624,400 - 629,100	307,600 - 309,900	258,000 - 259,700	307,600 - 309,900
East Riding	212,000	284,000 - 285,200	338,400 - 340,500	4,229,556	127,200 - 127,300	93,700 - 94,100	111,700 - 112,400	84,800	190,300 - 191,100	226,700 - 228,100	111,700 - 112,400	93,700 - 94,100	111,700 - 112,400
Kingston upon Hull	160,700 - 163,200	216,000 - 237,100	257,900 - 296,700	0	96,400 - 97,900	71,300 - 78,200	85,100 - 97,900	64,300 - 65,300	144,700 - 158,900	172,800 - 198,800	85,100 - 97,900	71,300 - 78,200	85,100 - 97,900
North East Lincolnshire	98,100 - 99,100	124,700 - 133,200	144,100 - 159,100	0	58,900 - 59,500	41,200 - 44,000	47,600 - 52,500	39,200 - 39,600	83,500 - 89,200	96,500 - 106,600	47,600 - 52,500	41,200 - 44,000	47,600 - 52,500
North Lincolnshire	111,200 - 113,400	135,700 - 152,400	153,000 - 181,900	13,979,608	66,700 - 68,000	44,800 - 50,300	50,500 - 60,000	44,500 - 45,400	90,900 - 102,100	102,500 - 121,900	50,500 - 60,000	44,800 - 50,300	50,500 - 60,000
North Yorkshire sub region	515,000 - 531,000	597,000 - 713,000	653,000 - 852,000	20,820,560	309,000 - 318,600	197,000 - 235,300	215,500 - 281,200	206,000 - 212,400	400,000 - 477,700	437,500 - 570,800	215,500 - 281,200	197,000 - 235,300	215,500 - 281,200
North Yorkshire County Council	392,900 - 405,300	451,900 - 544,700	491,500 - 650,500	NA	235,700 - 243,200	149,100 - 179,800	162,200 - 214,700	157,200 - 162,100	302,800 - 364,900	329,300 - 435,800	162,200 - 214,700	149,100 - 179,800	62,200 - 214,700
NYCC CA Site	65,000 - 74,300	74,800 - 99,900	81,400 - 119,200	NA	39,000 - 44,600	24,700 - 33,000	26,900 - 39,300	26,000 - 29,700	50,100 - 66,900	54,500 - 79,900	26,900 - 39,300	24,700 - 33,000	26,900 - 39,300
Craven	28,900	33,200 - 38,900	36,200 - 46,400	NA	17,300	11,000 - 12,900	11,900 - 15,300	11,600	22,200 - 26,100	24,300 - 31,100	11,900 - 15,300	11,000 - 12,900	11,900 - 15,300
Hambleton	45,100 - 45,900	52,800 - 60,600	57,500 - 72,400	NA	27,000 - 27,500	17,400 - 20,000	19,000 - 23,900	18,000 - 18,400	35,400 - 40,600	38,500 - 48,500	19,000 - 23,900	17,400 - 20,000	19,000 - 23,900
Harrogate	75,600 - 76,500	87,000 - 102,900	94,600 - 122,800	NA	45,400 - 45,900	28,700 - 34,000	31,200 - 40,500	30,200 - 30,600	58,300 - 68,900	63,400 - 82,300	31,200 - 40,500	28,700 - 34,000	31,200 - 40,500
Richmondshire	27,500 - 28,300	31,700 - 38,000	34,400 - 45,400	NA	16,500 - 17,000	10,500 - 12,500	11,400 - 15,000	11,000 - 11,300	21,200 - 25,500	23,000 - 30,400	11,400 - 15,000	10,500 - 12,500	11,400 - 15,000
Ryedale	44,300 - 44,800	51,000 - 60,200	55,400 - 71,900	NA	26,600 - 26,900	16,800 - 19,000	18,300 - 23,700	17,700 - 17,900	34,200 - 40,300	37,100 - 48,200	18,300 - 23,700	16,800 - 19,000	18,300 - 23,700
Scarborough	28,700 - 28,900	33,200 - 38,500	36,100 - 46,000	NA	17,200 - 17,300	11,000 - 12,700	11,900 - 15,200	11,500 - 11,600	22,200 - 25,800	24,200 - 30,800	11,900 - 15,200	11,000 - 12,700	11,900 - 15,200
Selby	76,700 - 78,700	88,200 - 105,800	95,900 - 126,300	NA	46,000 - 47,200	29,100 - 34,900	31,600 - 41,700	30,700 - 31,500	59,100 - 70,900	64,300 - 84,600	31,600 - 41,700	29,100 - 34,900	31,600 - 41,700
City of York	122,500 - 125,500	145,600 - 168,700	161,500 - 201,400	NA	73,500 - 75,300	48,000 - 55,700	53,300 - 66,500	49,000 - 50,200	97,600 - 113,000	108,200 - 135,000	53,300 - 66,500	48,000 - 55,700	53,300 - 66,500
South Yorkshire sub region	592,000 - 721,000	319,000 - 969,000	231,000 - 1,157,000	14,209,450	355,200 - 432,600	105,300 - 319,800	76,200 - 381,800	236,800 - 288,400	213,700 - 649,200	154,800 - 775,200	76,200 - 381,800	105,300 - 319,800	76,200 - 381,800
Barnsley	120,000 - 139,600	75,600 - 187,600	57,200 - 224,000	786,419	72,000 - 83,800	24,900 - 61,900	18,900 - 73,900	48,000 - 55,800	50,700 - 125,700	38,300 - 150,100	18,900 - 73,900	24,900 - 61,900	18,900 - 73,900
Doncaster	172,300 - 195,600	122,600 - 262,900	100,000 - 313,900	7,386,783	103,400 - 117,400	40,500 - 86,800	33,000 - 103,600	68,900 - 78,200	82,100 - 176,200	67,000 - 210,300	33,000 - 103,600	40,500 - 86,800	33,000 - 103,600
Rotherham	118,900 - 141,500	66,600 - 190,100	47,000 - 227,000	844,484	71,300 - 84,900	22,000 - 62,700	15,500 - 74,900	47,500 - 56,600	44,600 - 127,400	31,500 - 152,100	15,500 - 74,900	22,000 - 62,700	15,500 - 74,900
Sheffield	181,000 - 244,500	54,100 - 328,600	26,200 - 392,400	5,191,784	108,600 - 146,700	17,900 - 108,400	8,600 - 129,500	72,400 - 97,800	36,200 - 220,200	17,600 - 262,900	8,600 - 129,500	17,900 - 108,400	8,600 - 129,500
West Yorkshire sub region	1,186,000 - 1,272,000	1,246,000 - 1,710,000	1,409,000 - 2,042,000	22,064,518	711,600 - 763,200	411,200 - 564,300	465,000 - 673,900	474,400 - 508,800	834,800 - 1,145,700	944,000 - 1,368,100	465,000 - 673,900	411,200 - 564,300	465,000 - 673,900
Bradford	321,400 - 341,000	431,900 - 616,800	515,700 - 880,100	351,970	192,800 - 204,600	203,500 - 142,500	290,400 - 170,200	128,600 - 136,400	289,400 - 413,300	589,700 - 245,500	290,400 - 170,200	203,500 - 142,500	290,400 - 170,200
Calderdale	100,200 - 109,000	88,300 - 146,500	81,900 - 175,000	1,168,803	60,100 - 65,400	29,100 - 48,300	27,000 - 57,700	40,100 - 43,600	59,200 - 98,200	54,900 - 117,300	27,000 - 57,700	29,100 - 48,300	27,000 - 57,700
Kirklees	218,700 - 245,100	166,200 - 329,400	141,000 - 393,300	3,369,374	131,200 - 147,100	54,800 - 108,700	46,500 - 129,800	87,500 - 98,000	111,400 - 220,700	94,500 - 263,500	46,500 - 129,800	54,800 - 108,700	46,500 - 129,800
Leeds	340,000 - 386,400	240,900 - 519,300	195,900 - 620,100	15,755,931	204,000 - 231,800	79,500 - 171,400	64,600 - 204,600	136,000 - 154,600	161,400 - 347,900	131,300 - 415,500	64,600 - 204,600	79,500 - 171,400	64,600 - 204,600
Wakefield	185,900 - 210,600	133,800 - 283,000	109,900 - 337,900	1,418,440	111,500 - 126,400	44,200 - 93,400	36,300 - 111,500	74,400 - 84,200	89,600 - 189,600	73,600 - 226,400	36,300 - 111,500	44,200 - 93,400	36,300 - 111,500

TABLE C2 – COMMERCIAL & INDUSTRIAL																							
FORECASTS							CAPACITY REQUIREMENTS <sup>17</sup>														TARGET LANDFILL REDUCTION (ANNUAL TONNES TO BE LANDFILLED) <sup>13</sup>		
Annual Tonnes to be managed 2005		Annual Tonnes to be managed 2015		Annual Tonnes to be managed 2021		Current Landfill Capacity (m <sup>2</sup> /total non inert)	Landfill capacity required for 2005		Landfill capacity required for 2015			Landfill capacity required for 2021		Treatment capacity required for 2005		Treatment capacity required for 2015		Treatment capacity required for 2021		2005 (present capacity)	2015 (present capacity reduced by factor below)	2021 (present capacity reduced by factor below)	
Min	Max	Min	Max	Min	Max		34%		34%			34%		66%		66%		66%		91%	91%	91%	
							Min forecast arisings	Max forecast arisings	Min forecast arisings	Max forecast arisings		Min forecast arisings	Max forecast arisings	Min forecast arisings	Max forecast arisings	Min forecast arisings	Max forecast arisings	Min forecast arisings	Max forecast arisings				
Yorkshire & Humber	11,188,500	11,412,700	11,292,300	12,393,500	11,325,800	13,026,200	75,303,692	3,804,090	3,880,318	3,839,382	4,213,790		3,850,772	4,428,908	7,384,410	7,532,382	7,452,918	8,179,710	7,475,028	8,597,292	3,489,850	3,489,850	3,489,850
Humber	3,670,200	3,743,500	3,621,600	3,959,000	3,602,700	4,110,900	18,209,164	1,247,868	1,272,790	1,231,344	1,346,060		1,224,918	1,397,706	2,422,332	2,470,710	2,390,256	2,612,940	2,377,782	2,713,194	780,780	780,780	780,780
East Riding	1,258,879	1,284,021	1,271,182	1,389,609	1,264,548	1,442,926	4,229,556	428,019	436,567	432,202	472,467		429,946	490,595	830,860	847,454	838,980	917,142	834,601	952,331	267,808	274,054	274,054
Hull	1,112,071	1,134,281	1,100,966	1,203,536	1,095,221	1,249,714	0	378,104	385,655	374,329	409,202		372,375	424,903	733,967	748,625	726,638	794,334	722,846	824,811	236,576	237,357	237,357
NE Lincs	631,274	643,882	597,564	653,235	594,446	678,299	0	214,633	218,920	203,172	222,100		202,111	230,621	416,641	424,962	394,392	431,135	392,334	447,677	134,294	128,829	128,829
N Lincs	667,976	681,317	651,888	712,620	648,486	739,962	13,979,608	227,112	231,648	221,642	242,291		220,485	251,587	440,864	449,669	430,246	470,329	428,001	488,375	142,102	140,540	140,540
North Yorks	2,718,500	2,771,700	2,739,700	2,995,300	2,734,600	3,124,300	20,820,560	924,290	942,378	931,498	1,018,402		929,764	1,062,262	1,794,210	1,829,322	1,808,202	1,976,898	1,804,836	2,062,038	981,890	981,890	981,890
NYCC (excl York)	2,006,253	2,045,515	2,032,857	2,222,513	2,029,073	2,318,231	na	682,126	695,475	691,172	755,654		689,885	788,198	1,324,127	1,350,040	1,341,686	1,466,858	1,339,188	1,530,032	724,635	728,562	728,562
York	712,247	535,925	706,843	772,787	705,527	806,069	na	242,164	246,903	240,326	262,748		239,879	274,064	470,083	479,282	466,516	510,040	465,648	532,006	257,255	253,328	253,328
South Yorks	1,541,900	1,572,400	1,533,200	1,686,200	1,525,200	1,762,300	14,209,450	524,246	534,616	521,288	573,308		518,568	599,182	1,017,654	1,037,784	1,011,912	1,112,892	1,006,632	1,163,118	673,400	673,400	673,400
Barnsley	218,950	223,281	219,248	241,127	218,104	252,009	786,419	74,443	75,915	74,544	81,983		74,155	85,683	144,507	147,365	144,703	159,144	143,948	166,326	95,623	96,296	96,296
Doncaster	329,967	336,494	328,105	360,847	326,393	377,132	7,386,783	112,189	114,408	111,556	122,688		110,974	128,225	217,778	222,086	216,549	238,159	215,419	248,907	144,108	144,108	144,108
Rotherham	299,129	305,046	285,175	313,633	283,687	327,788	844,484	101,704	103,716	96,960	106,635		96,454	111,448	197,425	201,330	188,216	206,998	187,234	216,340	130,640	125,252	125,252
Sheffield	695,397	709,152	700,672	770,593	697,016	805,371	5,191,784	236,435	241,112	238,229	262,002		236,986	273,826	458,962	468,041	462,444	508,592	460,031	531,545	303,703	307,744	307,744
West Yorks	3,257,900	3,325,100	3,397,800	3,753,000	3,463,300	4,028,700	22,064,518	1,107,686	1,130,534	1,155,252	1,276,020		1,177,522	1,369,758	2,150,214	2,194,566	2,242,548	2,476,980	2,285,778	2,658,942	1,053,780	1,053,780	1,053,780
Bradford	654,838	668,345	686,356	758,106	699,587	813,797	351,970	222,645	227,237	233,361	257,756		237,859	276,691	432,193	441,108	452,995	500,350	461,727	537,106	211,810	212,864	212,864
Calderdale	283,437	289,284	295,609	326,511	301,307	350,497	1,168,803	96,369	98,356	100,507	111,014		102,444	119,169	187,069	190,927	195,102	215,497	198,863	231,328	91,679	91,679	91,679
Kirklees	498,459	508,740	516,466	570,456	526,422	612,362	3,369,374	169,476	172,972	175,598	193,955		178,983	208,203	328,983	335,769	340,867	376,501	347,438	404,159	161,228	160,175	160,175
Leeds	1,358,544	1,386,567	1,444,065	1,595,025	1,471,903	1,712,198	15,755,931	461,905	471,433	490,982	542,309		500,447	582,147	896,639	915,134	953,083	1,052,717	971,456	1,130,050	439,426	447,857	447,857
Wakefield	459,364	445,563	455,305	502,902	464,082	539,846	1,418,440	156,184	159,405	154,804	170,987		157,788	183,548	303,180	309,434	300,501	331,915	306,294	356,298	148,583	141,207	141,207

TABLE C3 – CONSTRUCTION &amp; DEMOLITION

YH REGIONAL FORECAST			TARGETS MAX NON BENEFICIAL USE (TONNES) <sup>22</sup>		
Annual Tonnes to be managed 2005	Annual Tonnes to be managed 2015	Annual Tonnes to be managed 2021	2005 (est. present amount landfilled)	Annual Tonnes to be managed 2005	Annual Tonnes to be managed 2005
			7%	7%	7%
12,001,800	12,778,100	13,306,400	840126	894467	931448

TABLE C4 – AGRICULTURAL

## FORECAST ARISING

2005	2015	2021
5,125,000	2,829,000	1,982,000

TABLE C5 – HAZARDOUS

## FORECAST ARISING

## CAPACITY

	FORECAST ARISING			CAPACITY					
	2005	2015	2021	Landfill 2005	Landfill 2015	Landfill 2021	Treatment 2005	Treatment 2015	Treatment 2021
				35%	35%	35%	65%	65%	65%
Yorkshire & Humber	774,000	1,048,000	1,048,000	270,900	366,800	366,800	176,085	238,420	366,800
Humber	108,360	146,720	146,720	37,926	51,352	51,352	24,652	33,379	33,379
North Yorkshire	46,440	62,880	62,880	16,254	22,008	22,008	10,565	14,305	14,305
South Yorkshire	270,900	366,800	366,800	94,815	128,380	128,380	61,630	83,447	83,447
West Yorkshire	348,300	471,600	471,600	121,905	165,060	165,060	79,238	107,289	107,289