

**DERBYSHIRE COUNTY COUNCIL, DERBY CITY COUNCIL
AND THE PEAK DISTRICT NATIONAL PARK**

**LOCAL AGGREGATES ASSESSMENT
DRAFT**



MARCH 2013



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Cover photo: Tunstead and Old Moor Quarry, Buxton

1. INTRODUCTION

Minerals are important to the local and national economy and play an important part in our everyday lives. They have many uses, including the provision of material for construction and for a wide variety of industrial and commercial purposes, including the manufacture of paint, paper and toothpaste. The planning system has to ensure that sites are available to provide sufficient minerals to supply these industries.

Aggregate minerals are those that are used by the construction industry, for example in road making, house construction, manufacture of concrete and as railway ballast. They include limestone, sandstone and sand & gravel. It is the future provision of these minerals with which this assessment is concerned.

Background

The National Planning Policy Framework (NPPF) (March 2012) requires Mineral Planning Authorities (MPAs) to plan for a steady and adequate supply of aggregates by determining their own levels of aggregate provision through the preparation an annual Local Aggregate Assessment (LAA). This should be prepared either individually or jointly by agreement with another or other mineral planning authorities, based on a rolling average of 10 years sales data and other relevant local information, and an assessment of all supply options (including marine dredged, secondary and recycled sources). It is advised also that published National and Sub National Guidelines on future provision should also be taken into account. It should also assess the balance between demand and supply, and the economic and environmental opportunities and constraints that might influence the situation. It should conclude if there is a shortage or surplus of supply and, if the former, how this is being addressed.

It also seeks to ensure that, so far as is practicable, landbanks of non-energy minerals should be maintained in locations outside National Parks or Areas of Outstanding Natural Beauty (AONBs), in order to conserve the nationally designated landscape and scenic beauty. Therefore, future contributions of aggregate from the Peak District National Park will need to be considered in light of this.

More detailed guidance on the preparation of LAAs was published in Guidance on the Managed Aggregates Supply System issued by DCLG in October 2012. This reinforces the above policy requirements, and sets out also that MPAs should look at the average 3 year sales in particular, to identify the general trend of demand as part of the consideration of whether it might be appropriate to increase mineral supply.

These new guidelines mark a substantial shift away from the previous 'historic shares' sub-regional approach to apportionment creation where a nationally prescribed regional apportionment figure was sub-divided proportionally within the region.

Derbyshire County Council, Derby City Council and the Peak District National Park Authority (PDNPA) have agreed to undertake a joint Local Aggregate Assessment. Whilst Government Guidance on LAAs, published in October 2012, suggests that joint LAAs may be prepared where joint planning is taking place, this is not directly consistent with the more flexible approach to joint preparation of LAAs contained in national policy in the NPPF (referred to above). Justification for the preparation of an LAA on a joint basis between Derbyshire and the PDNPA lies in the known interactions in terms of aggregates production and consumption within this area and the perceived benefits of closer cooperation on minerals planning within the area.

This assessment sets out the current and future situation in Derbyshire, Derby and the PDNP with regard to all aspects of aggregate supply, in particular, setting out the amount of land won aggregate that the area will need to provide. Throughout the text, Derbyshire means Derbyshire and Derby.

The LAA will be submitted to the Aggregates Working Party (AWP), an advisory body made up of MPAs across the region, for consideration and scrutiny. The AWP has a role to monitor the operation of the LAA system through providing technical advice, particularly on the apportionment of aggregate supply provision.

The work of MPAs and AWP's across the country will be overseen by a National Aggregate Coordinating Group (NACG) the main role of which will be to monitor the overall provision of aggregates in England and provide advice to AWP's and the Government. Specifically, the NACG will provide guidance to the government on National and Sub-National requirements for

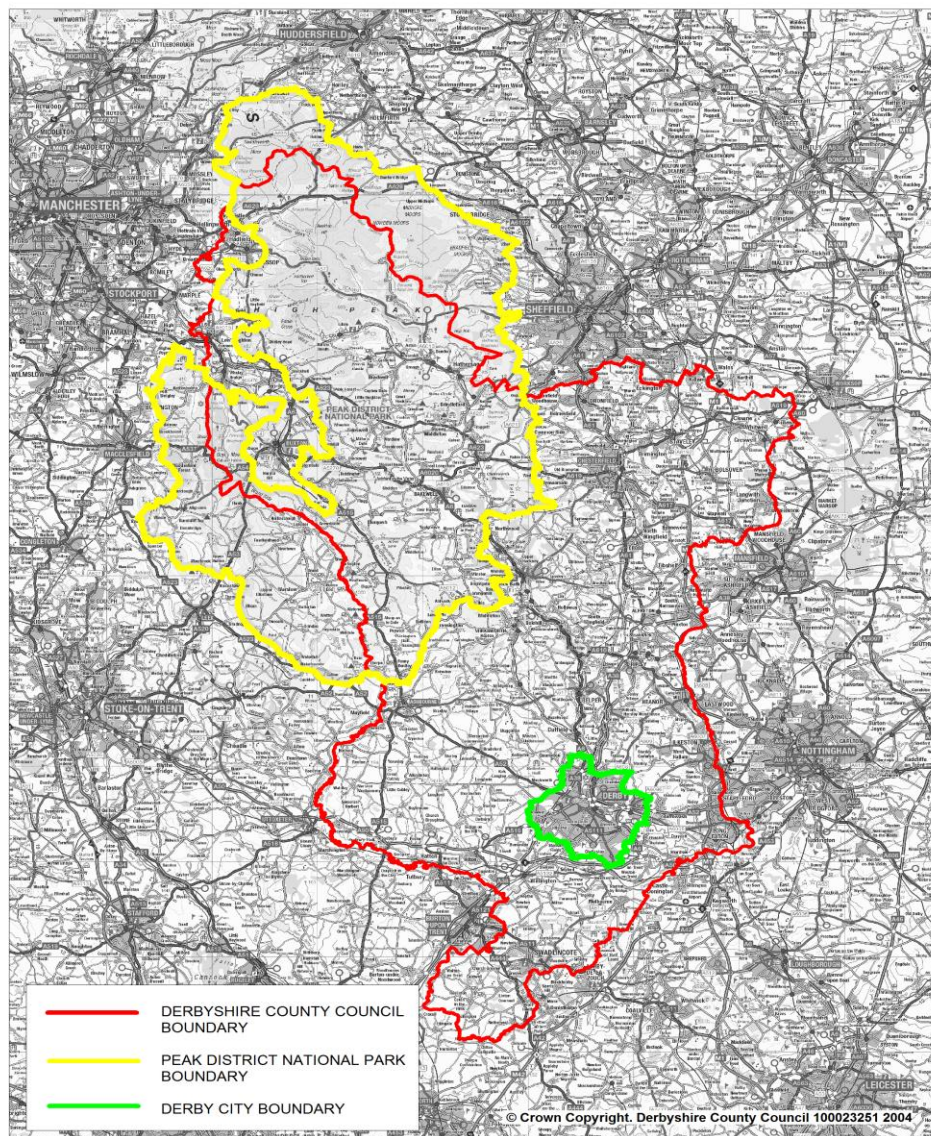
aggregate supply. These proposed National and Sub-National Guideline figures will be taken into account by MPAs when preparing future Local Aggregate Assessments.

The latest survey information is from 2011, and it is these figures on which this assessment is based. This information is updated on an annual basis.

Spatial Context

Derbyshire and the Peak District National Park are situated in the central part of England, mostly within the East Midlands region. The large conurbations of Nottingham, Sheffield and the North West and West Midlands lie in close proximity to the area.

Figure 1: Derbyshire, Derby and the Peak District National Park



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Derbyshire and Derby has a population of around 1,018,400¹. The majority of the population of Derbyshire and Derby lives in urban areas, with around three quarters living in settlements in the eastern half of the county. The largest settlements are Derby in the south and Chesterfield in the north. There are 430,000 households in Derbyshire and Derby. By 2031, it is estimated that the population of the area will have increased to 1,149,460, an increase of 11%. It is estimated that there will be a further 96,000 households by 2031, the largest increases expected to be in Derby, Amber Valley and South Derbyshire. This population growth, in turn, will create the need for further employment opportunities and improvements in infrastructure. As such, it is crucial that Derby City and Derbyshire County Councils and the PDNPA, as the MPAs for the area, are able to ensure the supply of sufficient mineral to realise these growth aims and to maintain the infrastructure already developed.

National and Sub National Aggregate Guidelines

The Government produced the 2005-2020 aggregate guidelines in 2009. The East Midlands Aggregates Working Party (EMAWP) used these figures to provide the Region's MPAs with their aggregate apportionments for this period.

These sub regional (i.e. county level) figures were considered and endorsed by the East Midlands Regional Assembly in 2010. They would then have been incorporated into the Regional Plan through the partial review process. However, with the abolition of the Regional Assemblies in March 2010, the revised Regional Plan did not progress so the figures have not been tested through public examination and included in any plan.

At the meeting of the East Midlands AWP on 4 February 2013, it was agreed that these figures were based on information which is now out of date and should no longer be taken into account in preparing the new figures. It was agreed, therefore, to base the new apportionment figure on the 10 year average of sales and to consider any flexibility in this figure taking account primarily of local circumstances, particularly future economic growth.

¹ 2011 Census and includes the area of Derbyshire within the Peak District which is around 30,000 (around 7,000 people live in the area of the National Park outside Derbyshire)

2. AGGREGATE RESOURCES

Primary Aggregates

The geology of Derbyshire, Derby and the Peak District National Park gives rise to the following commercially viable primary aggregate deposits:

- Hard rock, including limestone and sandstone/gritstone
- Alluvial sand and gravel (river valleys)
- Sherwood Sandstones

For centuries, the rich geology of Derbyshire, Derby and the Peak District National Park has encouraged the search for workable minerals. **The principal sources of Limestones and Sandstones/Gritstones** were formed during the Carboniferous, Permian and Triassic Periods, between 354 and 200 million years ago. Most of the National Park and the northern part of Derbyshire is underlain by limestone and gritstone (a hard form of sandstone) from the Carboniferous period.

The principal sources of Carboniferous limestones, which are worked in Derbyshire and the Peak District National Park are found mainly in an area which stretches from Buxton, in a south easterly direction through the southern half of the National Park, towards the Matlock and Wirksworth/Cromford area. This rock provides a valuable and important raw material which is used in crushed form, both as high grade aggregate for concrete making and roadstone (where the physical properties of certain deposits are important) and for industrial purposes (as a result of the chemical composition of certain deposits).

The Permian Limestone was formed slightly more recently, around 250 million years ago. This is found and worked in the north east of the county, in the area around Bolsover and Whitwell. It is a lower grade material than the Carboniferous Limestone and is used principally as constructional fill.

Whilst total resources of sandstone and gritstone within Derbyshire and the Peak District National Park are large, the quantity and quality of the limestone in the area means that the focus for aggregate production is on limestone rather than sandstone and gritstone. Relatively small amounts of this material are quarried for aggregate in the north west of the area, around

Glossop and Hayfield and in the Stanton Moor area. The more extensive use of this mineral is for building stone.

The river valley sand and gravels were laid down much more recently, at the end of the last ice age (around 14,000 years ago).

Derbyshire has substantial resources of sand and gravel in the river valleys of the Trent, Lower Derwent and Lower Dove, occurring within the fluvial/alluvial and terrace deposits, as shown on Figure 2 below. The thickness of the river valley deposits varies considerably, ranging from less than one metre thickness in some areas to eight or nine metres thick in other areas. The gravel content of the deposits is usually high (50%-70%), the remainder being sand and fine silts. The majority of working to date has taken place in the Trent and the Lower Derwent Valleys, with reserves being of particularly high quality, both in geological and commercial terms, in the area of the Trent Valley between Long Eaton and Willington.

Deposits of sand and gravel also occur in the solid bedrock of the **Sherwood Sandstones**. These are much older than the river valley deposits, having been laid down around 230 million years ago in the Triassic period. Their thickness varies considerably from 100m to virtually nothing. The proportion of gravel also varies greatly but is usually much less than in the river valley deposits. It is a source of soft building sand and also sharp sand for concrete. There is currently only one operation in the county. This is located at Mercaston in an area between Derby and Ashbourne.

Derby City has only limited mineral resources. There is no hard rock and only a small amount of sand and gravel.

Secondary and Recycled Aggregates

Along with primary aggregate, described as being minerals extracted directly from the ground, there are also secondary and recycled aggregates, which can substitute and reduce the need for primary aggregates for some end uses. Recycled aggregates are those derived mainly from construction and demolition projects. Examples include the re-use of brick and concrete, being reprocessed to be used in new developments, rather than being disposed of in a landfill site. This often takes place using mobile plants on redevelopment sites. Secondary aggregates are created as a by-product of a construction or industrial process. Examples include power station

ash resulting from combustion (fly ash) which can be used in the production of bricks and cement, and slag from iron smelting which can be manufactured into mineral wool which can subsequently be used as a heating pipe insulator.

The benefits of maximising the use of both secondary and recycled aggregate are two-fold. Firstly, the use of these aggregates reduces the need to extract primary material in the first instance, leading to a reduction in the need for quarry sites. Secondly, the re-use of material reduces the amount of waste that needs to be disposed of, thereby reducing the need for landfill sites. Such a reduction in the need for quarry and landfill sites has clear economic, environmental and social benefits.

3. ASSESSMENT OF LOCAL RESOURCES, RESERVES AND PRODUCTION

Sand & Gravel

Resources and Reserves

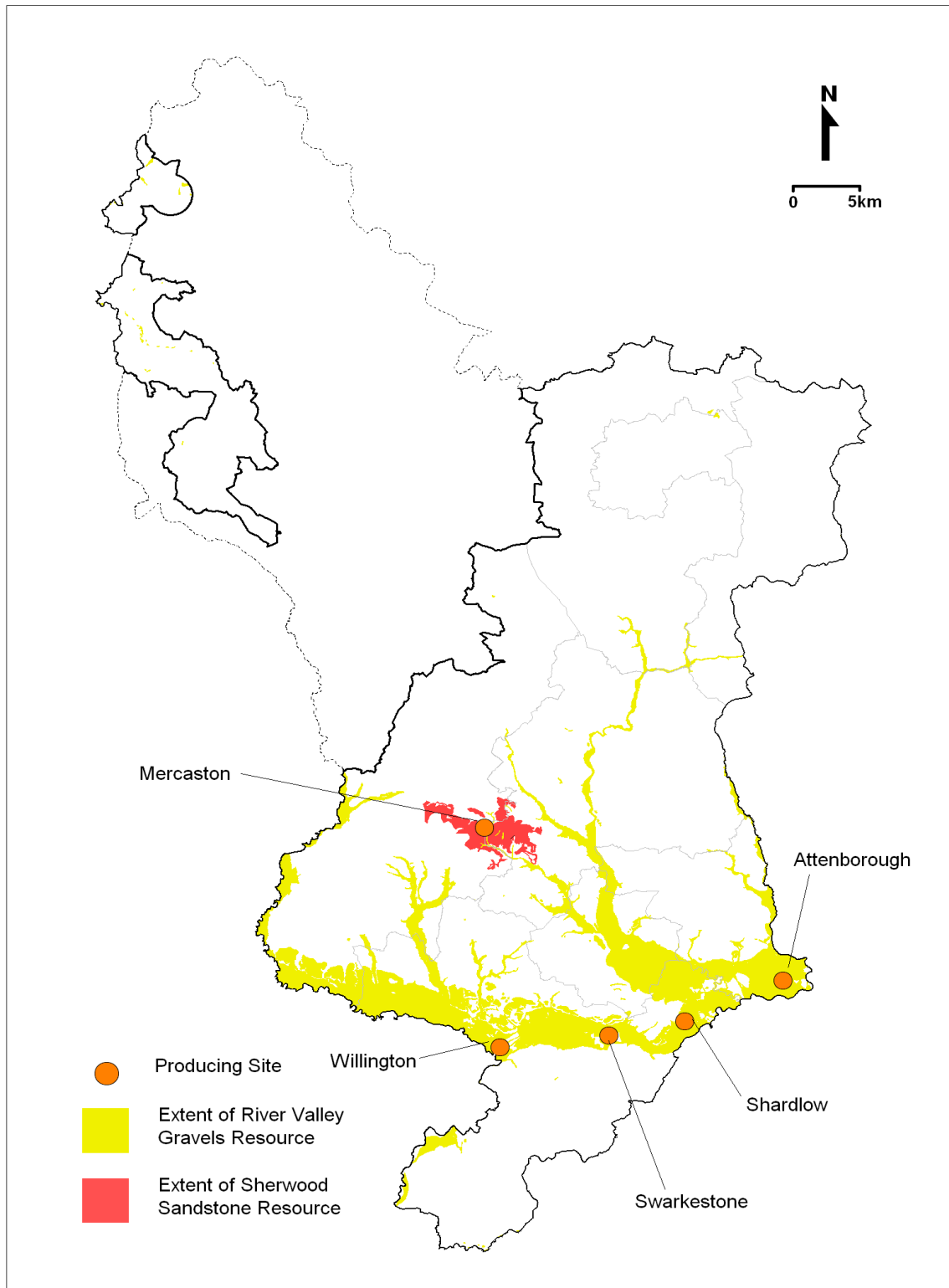
Sand and gravel resources are concentrated along the river valleys in the south of the county, the most important being the Trent Valley to the south of Derby, as well as the adjoining river valleys of the Lower Derwent and Dove. Currently, the mineral is worked in the Trent and Derwent valleys. There are no sand and gravel resources in the Peak District National Park.

In 2011, there were five active operations producing sand and gravel, four along the Trent Valley (Glacio-fluvial) and one at Mercaston (Sherwood Sandstone). There is a further site with permitted reserves at Potlocks Farm, which is currently not in operation. Further reserves will also be released at Elvaston when the legal agreement has been signed.

Table 1: Permitted Sand and Gravel Quarries in Derbyshire

Quarry	Operator	Status
Attenborough	Cemex	Active. Estimated lifespan 4 years to 2017
Swarkestone	Lafarge/Tarmac	Active. Estimated lifespan 9 years to 2022
Shardlow	Hanson	Active. Estimated lifespan 3 years to 2016
Willington	Cemex	Active. Estimated lifespan 7 years to 2020
Mercaston	Hanson	Active
Elvaston	Lafarge/Tarmac	Currently not being worked and no permitted reserves. Permission granted in May 2011 for extension, subject to pending legal agreement
Potlocks Farm, Willington	Hanson	Not currently being worked but current permission would allow it to be worked.

Figure 2: Sand and Gravel Resources in Derbyshire with Active Sand & Gravel Sites



At the end of 2011, estimated permitted reserves of sand and gravel in Derby and Derbyshire from the above quarries amounted to around 8.85 million tonnes.

This stock of reserves with planning permission is known as the landbank. The landbank includes active quarries and also inactive quarries but only those which have valid conditions for working. Government policy requires landbanks to be maintained for all aggregate minerals, with the recommended landbank period for sand and gravel required to be at least 7 years. The current length of the landbank for sand and gravel in Derbyshire (using the former 2005-2020 apportionment figure) is calculated as follows:

Landbank of permissions	=	8.85 million tonnes
Annual Apportionment	=	1.49 million tonnes
Landbank period	=	6 years

Recent Production

Sales of primary sand and gravel originating from Derbyshire are shown in the table below.

Table 2: Sales of Sand and Gravel in Derbyshire 2001-2010² (million tonnes)

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
1.53	1.48	1.36	1.34	1.20	1.22	1.10	0.91	1.04	1.1	1.23

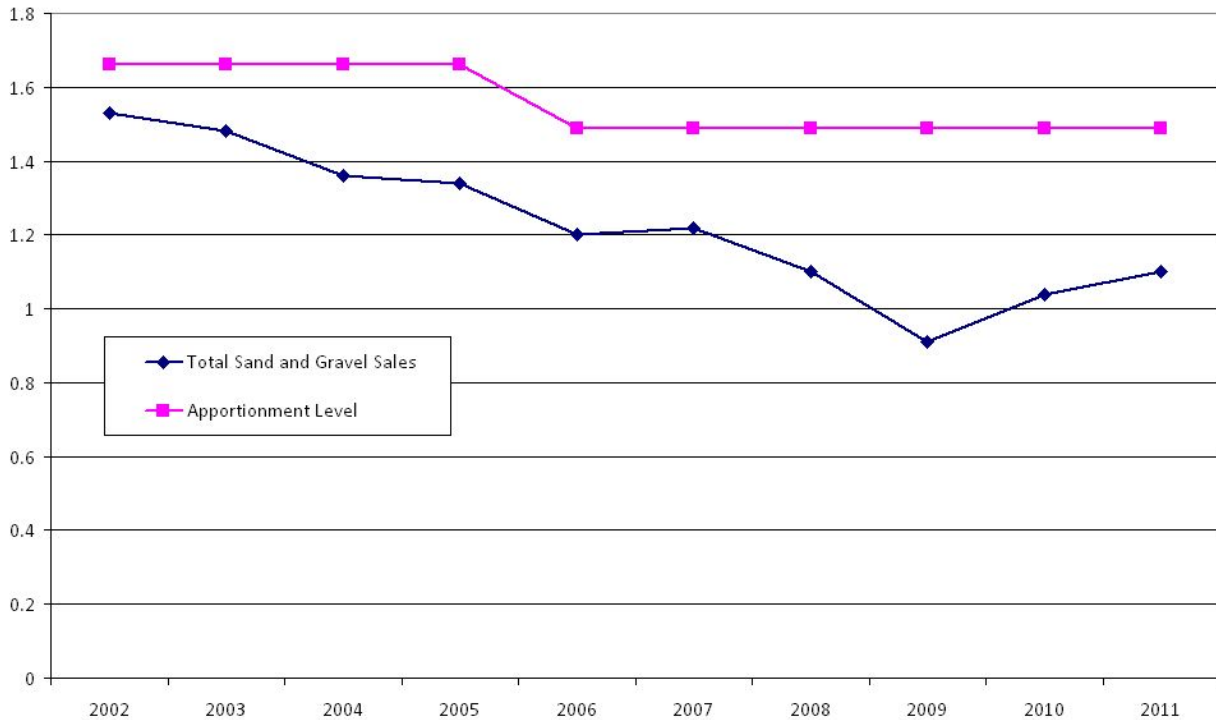
These show that production has averaged 1.23 million tonnes over this 10 year period. The figures indicate a predominantly downward trend, but showing a slight recent increase in 2010. This pattern mirrors that of the whole East Midlands region, where production was over 10 million tonnes at the start of the 10 year period, declining steadily to 5.5 million tonnes in 2009 before recovering slightly to 5.8 million tonnes in 2010.

For the most recent 3 years (2009-2011), production has averaged 1.01 million tonnes. This figure will be monitored on an annual basis to highlight recent changes in production and the MPAs will respond to any significant changes which come to light.

The graph below shows sales against the county's apportionment level (from the previous National and Sub-National Guidelines) for the period. Throughout this period, it is worth noting that sand and gravel sales have not met the level of apportionment, generally being 200,000 to 300,000 tonnes below the agreed apportionment level.

² Source: Annual Monitoring Surveys

Figure 3: Sales of Sand & Gravel 2002-2011 against past and current apportionment level



Crushed Rock

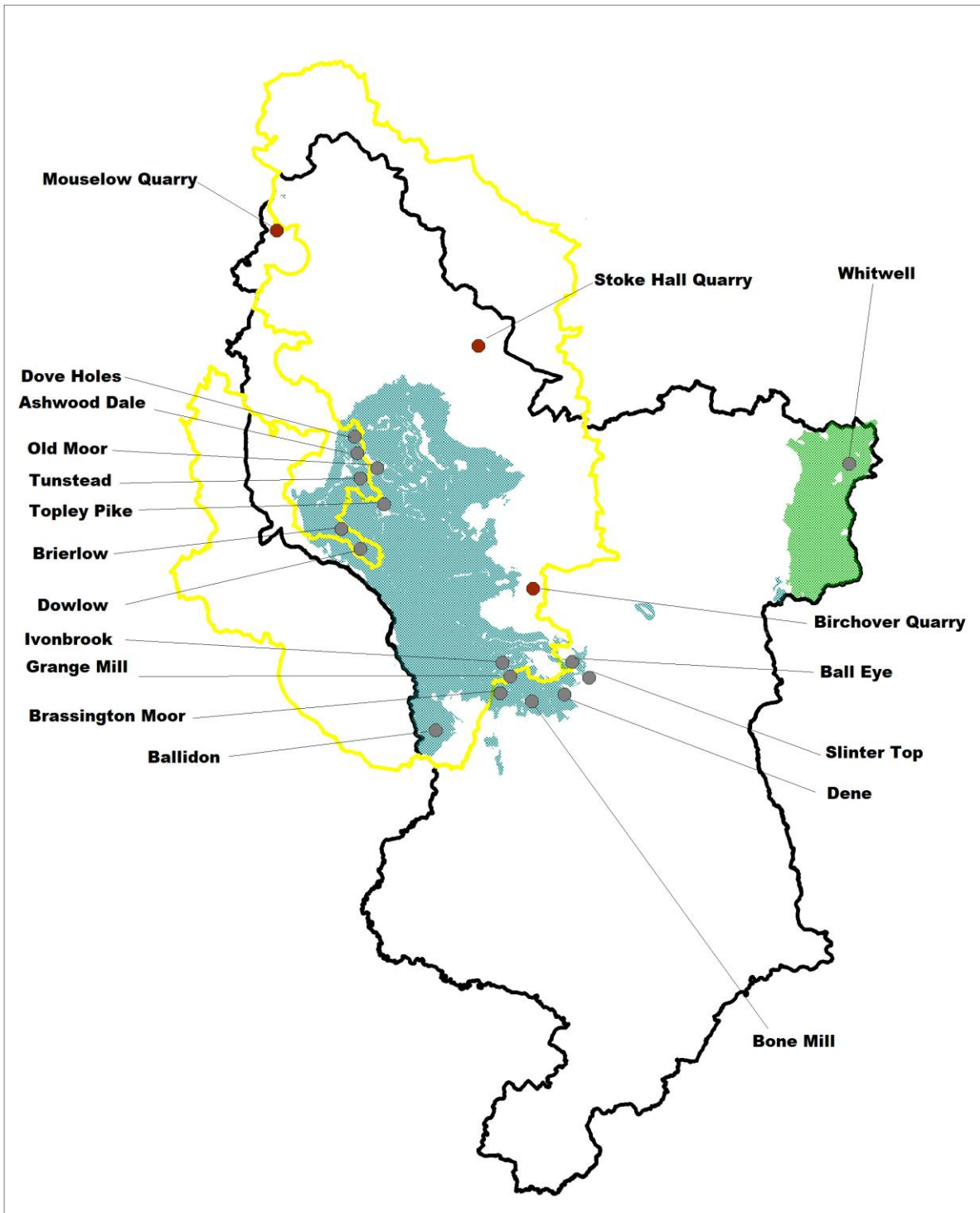
Resources & Reserves

Derbyshire and the PDNP is one of the largest producers of aggregate grade crushed rock in this country. Aggregates are supplied from Derbyshire and the PDNP, overwhelmingly from the Carboniferous limestone. Quarries within the area covered by the two authorities supplied just over 7 million tonnes of aggregate grade crushed rock in 2011.

Relatively small amounts of sandstone aggregate are quarried from Mouselow Quarry in the north west of Derbyshire (around 2-5,000 tonnes annually). There is currently no significant supply of sandstone/gritstone aggregates from within the PDNP, although the potential remains for some permitted sites to produce aggregates if the market dictates.

In 2011, there were a total of nineteen quarries producing crushed rock for aggregate in the area, fifteen of these exploiting the Carboniferous resource, one exploiting the Permian resource and three gritstone quarries. Those marked with a (i) in Table 3 below extract limestone for the industrial market as their principal product but also produce significant quantities of limestone for use as aggregate.

Figure 4: Hard Rock Resources and Active Hard Rock Quarries producing aggregate in Derbyshire and the Peak District National Park



Title

Hard Rock Resources and Active Hard Rock Quarries producing Aggregate in Derbyshire and The Peak District National Park



- Key**
- Limestone producing site
 - Sandstone producing site
 - Extent of Surface Permian Limestone Resource
 - Extent of Carboniferous Limestone Resource
 - Derbyshire County Boundary
 - Peak District National Park Boundary

Table 3: Active Hard Rock Quarries currently producing Aggregate in Derbyshire and the Peak District

Quarry	Operator	Aggregate
Derbyshire Quarries		
Ashwood Dale, Buxton	Omya UK	Limestone
Brierlow Quarry, Buxton	Lhoist	Limestone
*Dove Holes Quarry, Buxton	Cemex	Limestone
Dow Low Quarry, Buxton (i)	Hope Construction Materials	Limestone
Tunstead Quarry, Buxton (i)	Lafarge/Tarmac	Limestone
Dene Quarry, Cromford	Lafarge/Tarmac	Limestone
Ball Eye Quarry, Cromford	Deepwood Mining	Limestone
Slinter Top Quarry, Cromford	Slinter Mining Co.	Limestone
Bone Mill Quarry, Cromford	Longcliffe Quarries	Limestone
Grange Mill Quarry, Cromford (i)	Ben Bennett Jr.	Limestone
Longcliffe Quarry, Longcliffe (i)	Longcliffe Quarries	Limestone
Whitwell Quarry, Bolsover (i)	Lafarge/Tarmac	Limestone
Mouselow Quarry, Glossop	Wienerberger	Sandstone
Peak District National Park Quarries		
Ballidon Quarry, Parwich	Lafarge/Tarmac	Limestone
*Old Moor Quarry, Buxton (i)	Lafarge/Tarmac	Limestone
Topley Pike Quarry, Buxton	Aggregate Industries	Limestone
Ivonbrook Quarry, Grangemill	Aggregate Industries	Limestone
Stoke Hall Quarry, Grindleford	Marshalls	Gritstone
Birchover Quarry	Birchover Stone	Gritstone

The following sites have permitted reserves but are currently not working.

Table 4: Permitted Hard Rock Aggregate Quarries in Derbyshire and the Peak District National Park currently not in production

Quarry	Operator	Aggregate
Derbyshire Quarries		
Bolehill Quarry, Wingerworth	Block Stone Ltd.	Sandstone
Hayfield Quarry		Sandstone
Hindlow, Buxton	Lafarge/Tarmac	Limestone
Bolsover Moor, Bolsover	Lafarge/Tarmac	Dolomite
Middle Peak, Wirksworth	Lafarge/Tarmac	Limestone
Hoe Grange, nr Wirksworth	Longcliffe Quarries	Limestone
Crich Quarry, Crich	-	Limestone
Hillhead, Buxton	Lafarge/Tarmac	Limestone
Peak District National Park Quarries		
Longstone Edge East	British Fluorspar	Limestone
*Beelow Quarry, Buxton	Cemex	Limestone
Stanton Moor Quarry	Blockstone	Gritstone
Wimberry Moss Quarry, Rainow, Cheshire	AM & D Earl	Gritstone
Shire Hill Quarry, Glossop	Marchington Stone	Gritstone

** Cross boundary quarries*

(i) extract limestone for the industrial market as their principal product but also produce significant quantities of limestone for use as aggregate.

Allowing for reserves of crushed rock, which it has been estimated will be available for industrial use (389 million tonnes in Derbyshire and 116 million tonnes in The Peak District), there is an estimated reserve (the landbank) at these active and inactive sites of 789.5 million tonnes (710mt limestone and 0.8mt of sandstone/gritstone in Derbyshire + 78.2mt limestone and 0.055mt of sandstone/gritstone in the Peak District National Park) of rock for aggregate use in this area. This would be sufficient for 62 years of provision, based on the former joint

apportionment figure for 2005-2020 of 12.8 million tonnes (8.74mt for Derbyshire and 4.05mt for the PDNP). (The landbank excludes dormant sites where valid conditions for working are not in place.)

Recent Production

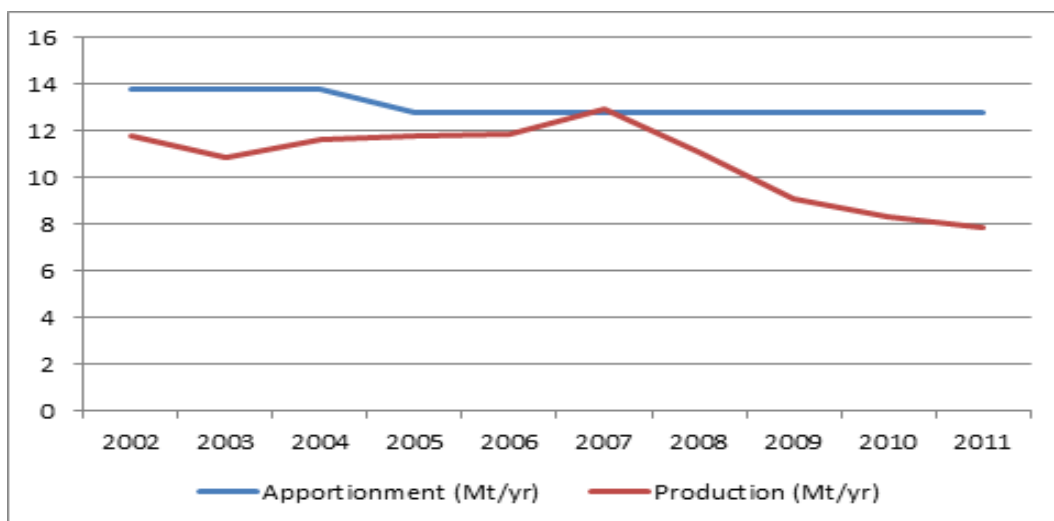
The average annual sales figure for the 10 year period 2002 to 2011 is 10.72mt. This figure comprises 7.14mt for Derbyshire and 3.58mt for the PDNP. For the most recent three years, production of crushed rock in Derbyshire and the Peak District has averaged 8.4 million tonnes. Production of aggregate in this period has dropped most significantly in the PDNP, from previous annual levels of around 4mt to around 1.6mt. In Derbyshire, although production has dropped progressively in the last three years, it has remained fairly steady with no significant dips in production.

This figure will be monitored on an annual basis to determine whether there are any significant changes in production which should be reflected in the Minerals Plan.

Table 5: Sales of Aggregate Crushed Rock 2002-2011 (million tonnes)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
DCC	7.31	6.17	7.02	6.93	7.54	9.17	6.99	7.37	6.62	6.35	7.14
PDNP	4.47	4.68	4.59	4.85	4.36	3.80	4.13	1.70	1.69	1.49	3.58
Joint	11.78	10.85	11.61	11.78	11.90	12.97	11.12	9.07	8.31	7.84	10.72

Figure 5: Sales of Aggregate Crushed Rock 2002-2011, against past and current apportionment level



4. CALCULATING THE FUTURE PROVISION OF AGGREGATES

The Future Provision of Sand and Gravel

To determine future provision of sand and gravel, the NPPF states that the previous 10 years sales need to be taken into account, together with published National and Sub National Guidelines, as well as any other relevant information.

Recent Sales

As set out in the previous section, the average of the previous 10 years' sales of sand and gravel in Derby and Derbyshire is 1.23 million tonnes per year. A ten year rolling average of sales is considered to be a valid approach for locally assessing an apportionment figure by the NPPF for two main reasons. Firstly, the time period is short enough so that overly historic sales are not taken into account. Historic sales are broadly more likely to be higher than more recent sales due to improvements in construction technologies and a stronger focus on re-using recycled and secondary material. The period is also considered long enough to ensure that short-term fluctuations in sales do not mask a true evaluation of what is considered to be a suitable amount of mineral to provide for. The most recent 3 year average of 1 million tonnes gives a clear indication of the recent downturn in production as a result of the economic recession.

It can be seen that the 10 year average figure of 1.23mt is not significantly different from the most recent apportionment figure of 1.49mt (see below). Other factors, however, must be taken into account in finalising the provision level for Derby and Derbyshire, as follows.

The 2005-2020 National and Sub-National Apportionment Figures

National policy sets out that the most recent National and Sub National Guidelines should be taken into account in determining future apportionment figures. The annual apportionment figure for Derby and Derbyshire for sand and gravel which was endorsed by members of the EMAWP was 1.49 million tonnes. However, as explained in Section 1 of this report, with the abolition of the Regional Assemblies in March 2010, the revised Regional Plan did not progress so the figures have not been tested and included in any plan. The previous apportionment for the period 2001-2016, which was included in the adopted Regional Plan was 1.66 million tonnes per annum.

These figures were discussed at the meeting of the EMAWP on 4 February 2013 and it was agreed that the figures are now based on out of date information, and should, therefore, not be taken into account in determining the new apportionment figures.

Imports and Exports

A national four-yearly monitoring survey is conducted by the DCLG and the British Geological Survey (BGS) which includes analysis of the movements (imports and exports) of aggregates for each MPA in England and Wales.

The 2009 was the most recent survey to be undertaken. This shows that, as well as producing sand and gravel, Derbyshire imports some sand and gravel into the county from surrounding areas, particularly from Nottinghamshire.

In 2009, 48% of sand and gravel (434,550 tonnes) produced in the county was sold in Derbyshire.

46% (420,000 tonnes) was exported to other MPAs within the East Midlands. Of the remaining 6% which was sold to areas outside the East Midlands, the majority, 39,850 tonnes (4%), was to the West Midlands.

In 2009, Derbyshire imported around 200,000 tonnes of sand and gravel from other MPAs in the East Midlands (mainly from Nottinghamshire), with only relatively small proportions from other regions, reflecting the relatively short distance that sand and gravel travels to its markets. It imported a further 196,000³ tonnes from other areas. It exported around 480,000 tonnes in 2009 (as set out above). It can be seen, therefore, that Derbyshire is a net exporter of sand and gravel. This implies that Derbyshire is providing sufficient sand and gravel to meet its own needs and other local needs.

³ Collation of the Results of the Aggregate Minerals 2009 Survey; BGS 2011

Table 6: Exports of Derbyshire’s Sand and Gravel 2009⁴

ORIGIN	Derbyshire (% of total production in brackets)	Peak District
DESTINATION		
Derbyshire & PP	434,551 (48%)	0
Nottinghamshire	26,074 (3%)	0
Lincolnshire	12,020 (1%)	0
Leics & Rutland	6774 (0.7%)	0
Northants	No data	0
Other E Midlands	375,241 (41%)	0
Other Regions		
North West	542 (0.05%)	0
Yorkshire & Humber	9237 (1%)	0
West Midlands	39,850 (4%)	0
East of England	1707 (0.1%)	0
London	21 (0.002%)	0
South East	31 (0.002%)	0
South West	0	0
North East	118 (0.01%)	0
Wales	457 (0.05%)	0
Scotland	0	0

Marine won Sand and Gravel

Being land-locked, Derbyshire, and indeed the whole of the East Midlands, does not produce any marine sand and gravel. The National and Regional Guidelines have in the past assumed a zero figure for production of this resource in this region. Transport costs also limit the import of this marine resource to this central area of the country. It is assumed, therefore, that

⁴ East Midlands Aggregate Working Party Annual Report 2009

marine sand and gravel is not a significant issue for Derbyshire and will not, therefore, form a part of this assessment.

Secondary and Recycled Aggregates

Information on secondary and recycled material that arises in Derby and Derbyshire is often inconsistent and unreliable. This is particularly true for secondary aggregates for which no throughput figures exist. Recycling of construction and demolition waste (and hence the production of recycled aggregate) is often dealt with at temporary sites and sites exempt from permitting by the Environment Agency and hence good quality data on locations of production and amounts produced is not available. Additionally, a large and unknown proportion of this material is often re-used/recycled on site, and therefore does not enter the waste stream, as such making it difficult to record. Due to the rural setting and limited development taking place, no significant secondary and recycled material arises from the PDNP.

In order to attempt to estimate arisings for recycled aggregates, we have to use national and regional surveys that are only carried out periodically. This data then has to be extrapolated to the local level. Although information about this waste stream is relatively poor, some estimates do exist.

A study undertaken on behalf of the Government⁵ estimated (subject to a significant margin of error, estimated to be plus or minus 15%) that in 2008 there were 43.5 million tonnes of recycled aggregates produced in England. By applying the growth rate from the East Midlands Regional Waste Strategy 2006, it is estimated that from 2012 to 2030, Derby and Derbyshire will produce around 3 million tonnes of recycled aggregate on an annual basis.

The extensive and detailed work to produce the National and Sub National aggregate apportionment figures for the period 2005-2020 took account of the capacity of facilities to provide recycled and secondary aggregates. These propose that the East Midlands region should provide 110 million tonnes of alternative aggregate materials between 2005 and 2020, equating to 6.9 million tonnes per annum. This is equivalent to 14% of the region's total aggregate supply, so the re-use of recycled and secondary aggregate is expected to be a significant feature of mineral supply. There is, however, no apportionment of the 110mt figure

⁵ Survey of Arisings and use of Alternatives to Primary Aggregates in England, Capita Symonds: February 2007

to individual Mineral Planning Authorities in the region. The overall assumption regarding the provision of alternative aggregates (set out above) has, however, meant that the regional apportionment figures for primary land won aggregates have been set at a lower level than they otherwise would have been.

Further work will be undertaken on this issue to determine more precisely the production and use of recycled and secondary aggregates in Derby and Derbyshire. Future LAAs will update on the position with this work and the potential implications, if any, for future supply patterns.

The extensive and detailed work to develop the aggregate apportionment figures for the period 2005-2020 took account of the capacity of facilities to provide recycled and secondary aggregates i.e. the assumptions are already built in to the most recent apportionment figure.

Future Economic Growth

The Government supports an agenda which promotes sustainable growth to stimulate economic recovery. There are a number of planned growth areas and potential major infrastructure projects in the area, which would help to achieve this aim. These projects would require significant amounts of sand and gravel, which it would be desirable to come from the local area to limit the distance it is transported.

There is a strong national and regional agenda to increase house building. Future house building over the plan period will be a significant element in the use of the County's aggregates, as it has been in the past.

Within the Plan period, the Three Cities Growth Area will result in major new housing development to the south of Derby and also in the area around Nottingham; an area which is already a significant market for sand and gravel produced in Derbyshire. Planned house building for Derby and Derbyshire is 67,000 by 2028⁶, of which 12,000 are planned for Derby City and 12,700 for South Derbyshire. This is an annual rate of around 3,900, and compares with recent completions achieved from 2001-2010 of around 2000 dwellings per year. For Nottinghamshire, proposed housing growth for the Plan period is 86,500, an annual rate of 4325, somewhat higher than that achieved for the 10 year period to 2010 (3600).⁷

⁶ Proposed housing growth in Derby and Derbyshire based on targets in District Core Strategies and Local Plans

⁷ Nottinghamshire Local Aggregate Assessment

Growth is also proposed in other areas which are close to Derbyshire's sand and gravel resources and may therefore add to the demand. Significant housing is proposed in East Staffordshire Borough, the preferred option of the emerging Local Plan proposing almost 4,000 new houses in the Burton area and around 1000 in the Uttoxeter area.⁸ In North West Leicestershire, 9,700 new houses are proposed to be built by 2031⁹. This proposed housing growth provides a strong indication that, over the plan period, there may be an increased demand for sand and gravel from this area from the house building industry.

Within the plan period, major infrastructure projects are planned to take place in the area and in the surrounding areas which currently use sand and gravel quarried from Derbyshire within the Plan period. These include the proposed regional rail depot in the southern part of the area and the proposed new high speed rail link (HS2.) As part of the HS2 project, a new rail hub is planned at Toton in Nottinghamshire, close to the area of Derbyshire from which sand and gravel is produced. There may also be demand for Derbyshire's sand and gravel from other major projects in Nottinghamshire, such as the A453 widening scheme due to start in 2014 and the Nottingham Express Transit (NET) Phase 2 to Clifton and Beeston, which in particular may draw on sand and gravel from Attenborough Quarry until its completion at the end of 2014. It is likely that these projects would all demand significant amounts of sand and gravel from Derbyshire.

Conclusion

We have considered carefully the recent 10 year average of 1.23 million tonnes per annum and acknowledge that this lower figure has been supported recently by the majority (70%) of people who came to the sand and gravel drop-in sessions held in the south of the county. We have taken account of this, but consider also that other significant factors, as discussed above, particularly future economic growth, should also play an important role in determining the final apportionment figure.

The Councils consider, therefore, that having taken all relevant matters into account as set out above, on balance, the correct and pragmatic approach will be to use the 10 year average figure with an additional 10%. This works out at 1.35 million tonnes per annum. This figure is

⁸ East Staffordshire Borough Local Plan Preferred Option, July 2012.

⁹ North West Leicestershire Local Plan Core Strategy Pre Submission, April 2012.

considered to be more robust, providing flexibility to respond to future sustainable economic growth and, therefore, providing a more secure platform for future economic recovery (an important underpinning principle of the NPPF). From the information above, it seems likely that there will be a requirement for an increasing amount of sand and gravel from Derbyshire as a result of the proposed housing growth and potential major infrastructure projects proposed for the area within the Plan period. We consider that the additional 10% provides a reasonable and proportionate degree of flexibility. This figure will be reviewed on an annual basis to ensure that it takes account of any new information.

This approach will result in the allocation of sites to allow for future economic growth, rather than insufficient sites being available if more material is needed in the Plan period. Recent discussions with operators have indicated that they could increase capacity at existing sites to respond to increased demand.

At recent drop-in sessions held in the communities within the sand and gravel resource, the public have expressed concern that using a higher figure than the 10 year average may result in the allocation of more land than may be required if the economic recovery and major development does not take place. However, all of the land is not necessarily going to be quarried over a short time; it means that extraction will simply take place over a longer period of time. The industry will not wish to supply more mineral to the market than it realistically has the prospect of selling, and it is, therefore, not considered that we would experience a proliferation of quarry sites across the County, all stockpiling reserves that cannot be sold. It would, in any event, be a pre-requisite for all extension sites that the additional mineral is required and that they are only worked once extraction from the existing site and all appropriate restoration phases have been completed. This will effectively control the timing of extension sites coming into operation. If the economic downturn does continue, existing sites will take longer to be worked, and identified Preferred Sites will be slower to come forward as a planning application or to commence working. Ultimately, the Preferred Sites would serve the County's needs for longer than the current plan period and if not taken up in this Plan period, may be reassessed in the subsequent Plan.

It should be noted that this proposed figure of 1.35mtpa is not a ceiling figure; there may be years when production is even higher than this. It is intended, therefore, as an average figure.

The figure will be reviewed annually and any new and emerging information, particularly relating to growth in the area will be taken into account.

Based on this proposed annual apportionment of 1.35 million tonnes, the proposed total apportionment for the period 2012-2030 that Derbyshire will provide is 25.65 million tonnes of sand and gravel (1.35x19). There are already permitted reserves of 8.85 million tonnes. Additional provision will have to be made, therefore, for 16.8 million tonnes of sand and gravel for the plan period to 2030. This will be made in the emerging Mineral Plan through allocated sites and preferred areas.

The Future Provision of Crushed Rock

To determine the future provision of aggregate crushed rock in Derbyshire and the PDNP, the previous 10 years sales need to be taken into account, as well as any other relevant information.

Recent Sales

In determining the level of future apportionment of crushed rock, the Assessment should first consider past sales for the previous 10 years. This includes limestone and gritstone/sandstone. As set out above, the average annual sales figure for the 10 year period 2002 to 2011 is 10.72mt. This figure comprises 7.14mt for Derbyshire and 3.58mt for the PDNP. The most recent 3 year average is 8.4 million tonnes (6.78mt for Derbyshire and 1.62 for the PDNP).

2005-2020 National and Sub National Guidelines

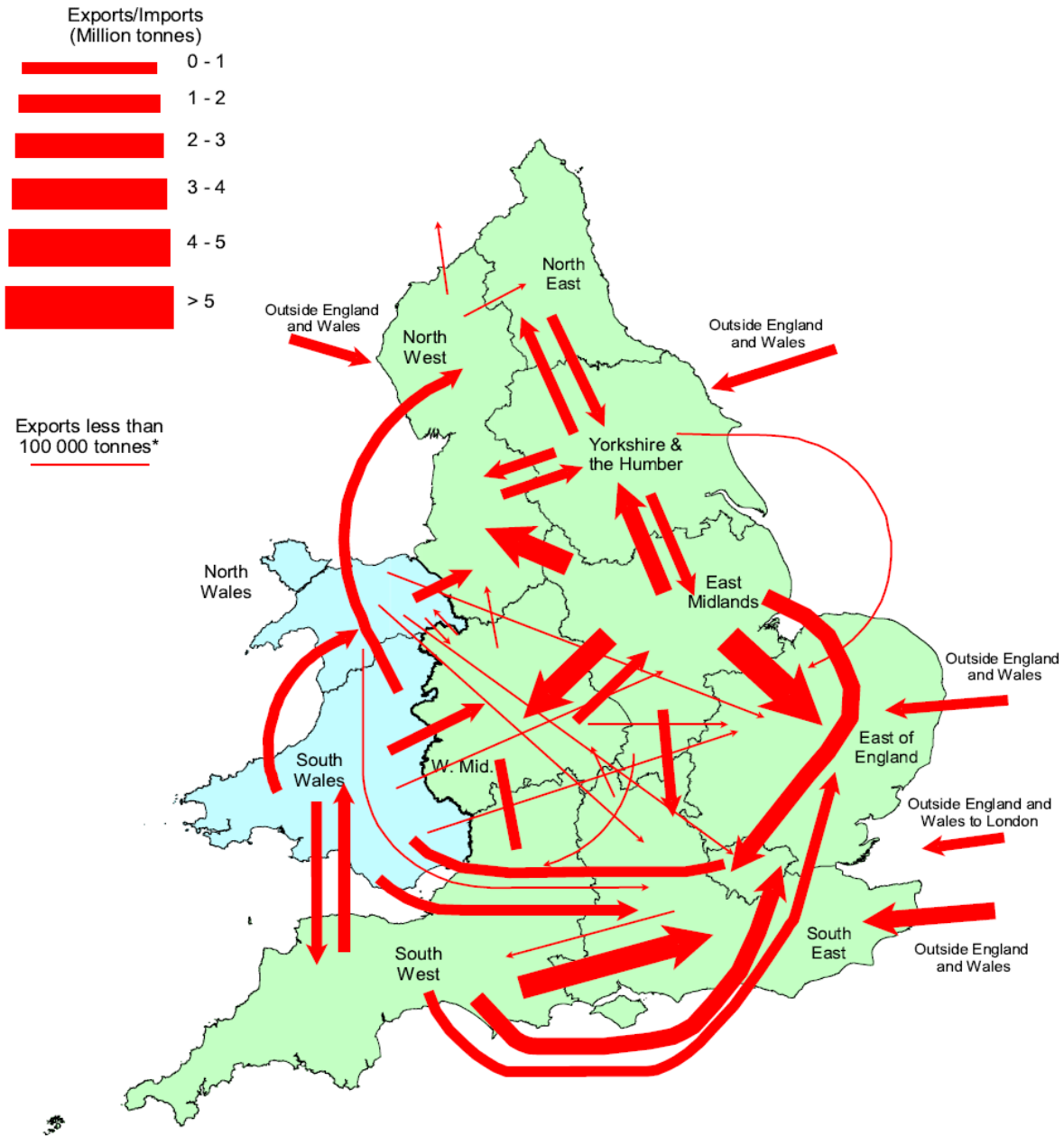
Separate apportionments for Derbyshire and the Peak District National Park were produced but, for the purposes of this joint assessment, they have been amalgamated. Derbyshire and the PDNP's total apportionment for the period 2005-2020 was 204.9 million tonnes, giving an annual figure of 12.8 million tonnes of aggregate crushed rock (8.74 for Derbyshire and 4.05 for the PDNP).

It was agreed at the meeting of the East Midlands AWP on 4 February 2013 that these figures are now based on out of date information, and should not, therefore, be taken into account in determining the new apportionment figures.

Imports and Exports

The 2009 Aggregate Minerals Survey, undertaken jointly with the DCLG and the BGS, collected information regarding movement of aggregates between MPAs and Regions.

Figure 6: Crushed rock inter-regional flows, 2009



In 2009, 25% of the 9 million tonnes of aggregate grade crushed rock that was quarried from Derbyshire and the PDNP was used within this same area¹⁰ and around 40% of the total production was consumed in the East Midlands (including Derbyshire and the PDNP). In terms of exports, a significant proportion of Derbyshire and Peak District’s production (38%) goes to the North West. Yorkshire/Humber, West Midlands and East of England together also take a

¹⁰ Mainly within Derbyshire, as a result of the general restriction on development in the Peak District.

smaller but still significant amount (18%) and the South East, Wales and the South West regions together take about 4%.

This information is shown in more detail in the table below.

Table 7: Exports of Crushed Rock from Derbyshire and Peak District Quarries, 2009 (Tonnes)¹¹

ORIGIN	Derbyshire	Peak District
DESTINATION		
Derbyshire & Peak District	2,403,673	445,018
Nottinghamshire	715,272	81,124
Lincolnshire	94,700	39,863
Leics & Rutland	50,420	10107
Northants	131,545	459
Unknown in East Midlands	42,809	No data
Other Regions		
North West	1,690,722	572,440
Yorkshire & Humber	872,845	266,164
West Midlands	391,145	135,077
East of England	537,544	188,977
London	1486	No data
South East	141,384	No data
South West	39	559
North East	20	No data
Wales	6324	4668
Scotland	No data	350
Unknown in UK	283,820	No data

It is clear from the size of Derbyshire and the PDNP's landbank of aggregate grade crushed rock that it will be able to continue to supply these markets as required through the Plan period. The area is, and is likely to continue to be, an important supplier of aggregate grade crushed rock at a wide geographical scale.

¹¹ East Midlands Aggregate Working Party Annual Report 2009

Although it can be seen that Derbyshire and the PDNP export a significant amount of aggregate grade crushed rock, some is also imported into the area. This is likely to be a result of market forces and commercial decisions, as well as the need to import any particular types of aggregate which cannot be supplied from within the sub-region as a result of geological or resource constraints. Derbyshire and the Peak District imported 588,000¹² tonnes of aggregate grade crushed rock, the majority of which (450,000 tonnes) was imported from Leicestershire/Rutland. Data shows that the majority of the remainder is imported from the North West, Yorkshire and Humber and the West Midlands regions. (We will endeavour to fill any gaps in this data shown in Table 7 above when the next full survey showing movement of aggregates is undertaken for 2013.)

It is apparent, therefore, that Derbyshire and PDNP is a significant net exporter of aggregate grade crushed rock to other areas, amounting to an average of around 8 million tonnes each year. Derbyshire has significant resources of hard rock compared to many other areas in the country and it will be important, therefore, to maintain this level of supply in order to sustain and stimulate national economic growth.

Secondary and Recycled Aggregates

Information on secondary and recycled material that arises in Derby and Derbyshire is often inconsistent and unreliable. This is particularly true for secondary aggregates for which no throughput figures exist. Recycling of construction and demolition waste (and hence the production of recycled aggregate) is often dealt with at temporary sites and sites exempt from permitting by the Environment Agency and hence good quality data on locations of production and amounts produced is not available. Additionally, a large and unknown proportion of this material is often re-used/recycled on site, and therefore does not enter the waste stream, as such making it difficult to record. Due to the rural setting and limited development taking place, no significant secondary and recycled material arises from the Peak District National Park.

In order to attempt to estimate arisings for recycled aggregates, we have to use national and regional surveys that are only carried out periodically. This data then has to be extrapolated to

¹² Collation of the Results of the Aggregate Minerals 2009 Survey; BGS 2011

the local level. Although information about this waste stream is relatively poor, some estimates do exist.

A study undertaken on behalf of the Government estimated (subject to a significant margin of error, estimated to be plus or minus 15%) that in 2008 there were 43.5 million tonnes of recycled aggregates produced in England. By applying the growth rate from the East Midlands Regional Waste Strategy 2006, it is estimated that from 2012 to 2030, Derby and Derbyshire will produce around 3 million tonnes of recycled aggregate on an annual basis.

The extensive and detailed work to produce the National and Sub National aggregate apportionment figures for the period 2005-2020 took account of the capacity of facilities to provide recycled and secondary aggregates. These propose that the East Midlands region should provide 110 million tonnes of alternative aggregate materials between 2005 and 2020, equating to 6.9 million tonnes per annum. This is equivalent to 14% of the region's total aggregate supply, so the re-use of recycled and secondary aggregate is expected to be a significant feature of mineral supply. There is, however, no apportionment of the 110mt figure to individual Mineral Planning Authorities in the region. The overall assumption regarding the provision of alternative aggregates has, however, meant that the regional apportionment figures for primary land won aggregates have been set at a lower level than they otherwise would have been.

The extensive and detailed work to develop the aggregate apportionment figures for the period 2005-2020 took account of the capacity of facilities to provide recycled and secondary aggregates i.e. the assumptions are already built in to the apportionment figure.

Further work will be undertaken on this issue to determine more precisely the production and use of recycled and secondary aggregates in Derby and Derbyshire. Future LAAs will update on the position with this work and the potential implications, if any, for future supply patterns.

Future Economic Growth

Crushed rock from Derbyshire and the Peak District is a resource of national importance, which does not exist to such an extent in many other areas of the country. As can be seen from Table 7 above, the markets for this product are, therefore, much wider than they are for sand and gravel.

Proposed sustainable economic growth in many areas which already draw on the resource is likely, therefore, to at least maintain the demand and may lead to an increase in demand for the mineral over the Plan period. There are a number of proposals which should be taken into account in this respect and could lead to an increase in demand for crushed rock from this area. The Government supports an agenda which promotes sustainable growth to stimulate economic recovery. There are a number of planned growth areas and potential major infrastructure projects in the area, which would help to achieve this aim. These projects would require significant amounts of crushed rock from Derbyshire.

There is a strong national and regional agenda to increase house building. Future house building over the plan period will be a significant element in the use of the County's aggregates.

It is likely that proposed housing and economic development in the Three Cities Growth Area (an area proposed for economic growth centred on Nottingham, Leicester and Derby), particularly in the area to the south of Derby and around Nottingham¹³, will result in an increased demand for Derbyshire's mineral resources, as well planned development in the Sheffield City Region and Manchester City Region Growth Areas, important existing markets for aggregate crushed rock from Derbyshire. There may also be an increased demand as a result of development in the Milton Keynes and South Midlands Growth Zone, an area to which a significant proportion of crushed rock from Derbyshire is currently exported. The proposed Regional Rail Depot near East Midlands Airport and the proposed high speed rail link (HS2) (due for completion in 2032) may also increase the demand for crushed rock aggregate from this area within the plan period. The widening of the A453 in Nottinghamshire is also likely to use crushed rock from Derbyshire. This is acknowledged by Nottinghamshire County Council in its Local Aggregate Assessment.

Progressive Reduction in Quarrying from The Peak District National Park

The PDNP has a policy in its Core Strategy (Policy MIN1) which does not allow for further new quarries or extensions to existing quarries, in order to reduce progressively the amount and proportion of aggregate grade crushed rock that is quarried from within the Park in order to protect the nationally protected landscape.

¹³ See page 22 for details of proposed housing numbers

Another important consideration in this respect is that the NPPF seeks to provide for the maintenance of landbanks for non-energy minerals outside areas such as National Parks. Future contributions of aggregate from the Peak District National Park will need to be considered in light of this.

The PDNP had also in the evidence base of its Core Strategy calculated the annual average distribution of mineral used for aggregate purposes from quarries due to close before 2020. However, most of the quarries where permissions were due to expire between 2010 and 2020 have in fact ceased mineral extraction early due in part to the overall economic conditions. Assuming these average distribution figures are removed from the PDNP's total average distribution of aggregates, the depletion curve demonstrates a reducing output from 4.4mtpa to an estimated 3.2mtpa by 2016. However, this depletion has effectively almost been achieved by 2012, with the last 10 year sales (2002-2011) from the remaining sites (i.e. those still in operation in 2012 with consent to operate across the plan period) in the PDNP, representing an average of 2.42mtpa.

Because of data protection issues, there is always a degree of uncertainty about implementation of projected closure dates, a factor made far more uncertain by the present economic downturn. However, on present projections, it seems likely that the depletion of existing reserves from the PDNP will continue to 2026. The PDNP has argued through the previous apportionment process at regional level and the development of its Core Strategy that an apportionment figure of 3.2mtpa was more realistic for the National Park than the endorsed figure of 4.05mt. This is based on the loss of the known aggregates sites whose permissions are time limited and expire during the plan period with the remaining sites producing at their peak levels. This would give an apportionment figure close to the 10 year average of 3.58mt and an apportionment figure of 0.64mt over the previous 10 years' average sales for only those sites still in production.

Through previous discussions with members of the Aggregate Working Party in preparing the 2005-2020 apportionment figures, it was agreed that quarries in Derbyshire (i.e. those within the county boundary not covered by the National Park) (serving similar markets to those in the National Park which are likely to cease production) would compensate for the majority of the displaced provision from the PDNP. Derbyshire County Council has agreed to continue this approach throughout this Plan period.

Conclusions

The average of the previous 10 years' sales figures is 10.72mt , with the most recent 3 years' average being 8.4mt. As well as taking account of this 10 year average figure, other important local and wider matters must be taken into consideration in formulating the final apportionment figure, as set out above.

Taking account of all the issues discussed above, it seems pragmatic to use the 10 year sales figure as a basis, but to also apply an additional 10% to this. This works out as 11.79 million tonnes per annum (8.59mtpa for Derbyshire and 3.2mtpa for the PDNP). This allows for the continued reduction in supply from the PDNP by setting its figure 10% lower than its recent 10 year average; with Derbyshire's figure set higher than its 10 year average. This proposed figure for Derbyshire allows both for the continued compensation for the progressive loss of production from the PDNP and also by setting a slightly higher figure than recent past sales would otherwise suggest, this also provides a degree of flexibility should production increase as a result of infrastructure projects in the region (as outlined above), and provides a more secure platform for the economic recovery (an important underpinning principle of the NPPF). We consider that the figure of 10% provides a reasonable and proportionate degree of flexibility to allow for this potential future economic growth.

As the run down in production from the National Park continues over time, DCC's share of this figure will increase progressively. Production of crushed rock will continue to be monitored on an annual basis and, along with other factors such as the NPPF requirement to maintain landbanks outside National Parks, will inform the review of apportionment figures in future LAAs.

As a result, from 2012 to 2030, Derbyshire and the PDNP will make provision for 224 million tonnes of aggregate grade crushed rock (11.79mt x 19 years). Assuming 11.79mt per annum is worked over 19 years (224mt), and that no further reserves are permitted in this time, there will still be a landbank of aggregate grade crushed rock of 565mt by 2030, sufficient to last around 50 years. There is sufficient supply, therefore, to meet future demand for aggregate grade crushed rock, which this area currently supplies.