

Nottinghamshire and Nottingham Local Aggregates Assessment

June 2016



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Summary

This is the fourth Nottinghamshire Local Aggregates Assessment (LAA) to be produced under the requirements set out in the National Planning Policy Framework (NPPF). The assessment covers the geographical area of Nottinghamshire and includes the Nottingham City unitary council area. It monitors annual sales data for aggregate minerals as well as identifying other relevant local information to enable the Mineral Planning Authorities to plan for a steady and adequate supply of minerals.

Aggregate minerals are made up of sand and gravel, Sherwood Sandstone and limestone and are used in the construction industry. Their main uses include concrete, mortar, asphalt, railway ballast and bulk fill.

The LAA sets out:

- Summaries of past aggregate sales, number of active quarries and the distribution of the extracted mineral;-
- The latest 10 and 3 year average sales data and a comparison to the previous average sales data; and,-
- The key issues that could affect the future demand for aggregates over the next plan period.

Key Findings

Nottinghamshire is an important producer of sand and gravel and Sherwood Sandstone and has a large export market particularly to South Yorkshire and the wider East Midlands. Limestone production is minimal with most imported from Derbyshire and Leicestershire.

Whilst aggregate mineral resources are present in the Nottingham City boundary, the opportunities to work these minerals are limited due to the built up nature of the area. As a result, all aggregates consumed in the city are supplied from either Nottinghamshire or further afield. Apart from a Scoping Opinion submitted in March 2015 for a proposed sand and gravel quarry which straddles both the county and city areas, no other sites for potential aggregate working are being promoted by the minerals industry within the City.

The Nottingham City Land and Planning Policies document contains policies against which any proposal for minerals development within the city boundary would be assessed against, however it doesn't include demand forecasts for aggregate minerals.

The recession has seen sales for all aggregate minerals fall significantly since 2007. This can be seen most dramatically with sand and gravel, as sales in 2009 fell to their lowest level since records began in 1974.

The 2014 sales data shows a slight increase in sand and gravel sales compared to the 2013 data, whilst Sherwood Sandstone sales remain the same as 2013. Limestone remains at zero.

The latest 10 year average sales figures for sand and gravel, Sherwood Sandstone and limestone have continued to decline due to the greater influence of the recession on the monitoring period. The 3 year average sales figure for sand and gravel has remained broadly stable whilst for Sherwood Sandstone and Limestone figures remain unchanged. See table 1

Table 1: Average sales figures 2014

	10 year sales average 2005-2014 (Million tonnes)	3 year sales average 2012-2014 (Million tonnes)
Sand and gravel	2.05	1.46
Sherwood Sandstone	0.40	0.35
Limestone	0.03	0.00

Although the 10 year average sales have fallen, it is not considered that there is a need to amend the demand forecast set out the emerging Nottinghamshire Minerals Local Plan. This is because the minerals plan needs to identify a steady and adequate supply of aggregates to meet expected demand over the plan period to 2030. The 10 year average set out in the 2013 LAA (and used in the emerging Nottinghamshire Minerals Local Plan) takes account of both a period of economic growth and recession, and is seen as being more robust than the latest 10 year average that is influenced by a greater period of low demand. Annual monitoring will continue to be undertaken to ensure that adequate reserves are identified over the plan period.

Introduction

- 1.1 The requirement to prepare a Local Aggregates Assessment (LAA) was introduced through the publication of the National Planning Policy Framework (NPPF) in March 2012. The LAA should include the latest 10 years average sales data taking into account any important local considerations and national and sub national guidelines on aggregate provision. The data contained in the LAA will then enable the Minerals Planning Authorities (MPAs) to make provision for a steady and adequate supply of aggregate minerals in their area over the life of the Minerals Local Plan.
- 1.2 More detailed guidance on LAAs was published by the Department for Communities and Local Government (DCLG) in October 2012 and adds the requirement to produce a 3 year average sales figure in order to monitor future demand.
- 1.3 This LAA sets out the aggregate minerals found in the geographical area of Nottinghamshire including Nottingham City, the current situation in terms of annual sales, number of active quarries and the amount of aggregate that will need to be provided over the plan period.
- 1.4 It is important to note that whilst aggregate mineral resources are present in the Nottingham City boundary, the opportunities to work these minerals are limited due to the built up nature of the area. As a result all aggregates consumed in the city are supplied from either Nottinghamshire or further afield. Apart from a Scoping Opinion submitted in March 2015 for a proposed sand and gravel quarry which straddles both the county and city areas, no other sites for potential aggregate working are being promoted by the minerals industry within the City.
- 1.5 The Nottingham City Land and Planning Policies document contains policies against which any proposal for minerals development within the city boundary would be assessed against, however it doesn't include demand forecasts for aggregate minerals.
- 1.6 The information used in this LAA is supplied by the East Midlands Aggregate Working Party and relates to the period 1st January to 31st December 2014.
- 1.7 The Aggregates Working Party is made up of MPAs from across the region and industry representatives. Its role is to provide technical advice about the supply and demand for aggregates and undertake annual monitoring of aggregate production and levels of permitted reserves across the East Midlands. This information is supplied to MPAs and to the National Aggregate Co-ordinating Group to inform national aggregate provision.
- 1.8 The LAA is required to be updated on an annual basis, and will enable the County and City Councils to monitor on going patterns and trends in aggregate sales and ensure that adequate reserves are maintained over the plan period.

Aggregates in Nottinghamshire and Nottingham City

- 2.1 Aggregates account for around 90% of minerals used in construction and are essential in maintaining the physical framework of buildings and infrastructure on which our society depends. Aggregates are usually defined as hard granular materials and include sand and gravel, Sherwood Sandstone and limestone. Their main uses include concrete, mortar, roadstone, asphalt, railway ballast, drainage courses and bulk fill.

Primary aggregates

- 2.2 Plan 1 illustrates the following primary aggregates that are found in the geographical area of Nottinghamshire and Nottingham.

Sand and gravel

- 2.3 Important alluvial (river) sand and gravel deposits are found in the Trent and the Idle Valleys which have made Nottinghamshire the largest sand and gravel producing area in the East Midlands. Limited extraction also occurs in glaciofluvial sand and gravel deposits near East Leake, south of Nottingham. Sand and gravel is mainly used in ready mixed concrete production, although Nottinghamshire's reserves are particularly valuable because they meet high strength concrete specifications as the gravel is made up of quartzite.

Sherwood Sandstone

- 2.4 Although defined as sandstone, this rock formation rapidly breaks down to sand when extracted. The sandstone occurs as a broad north-south belt stretching from the border with South Yorkshire, southwards to Nottingham. The mineral is mainly used to produce asphalt and mortar sand. There is relatively little overlap with the uses that the alluvial and glacial sand and gravels are put to. The Sherwood Sandstone is also used for non-aggregate industrial and other specialist end-uses.

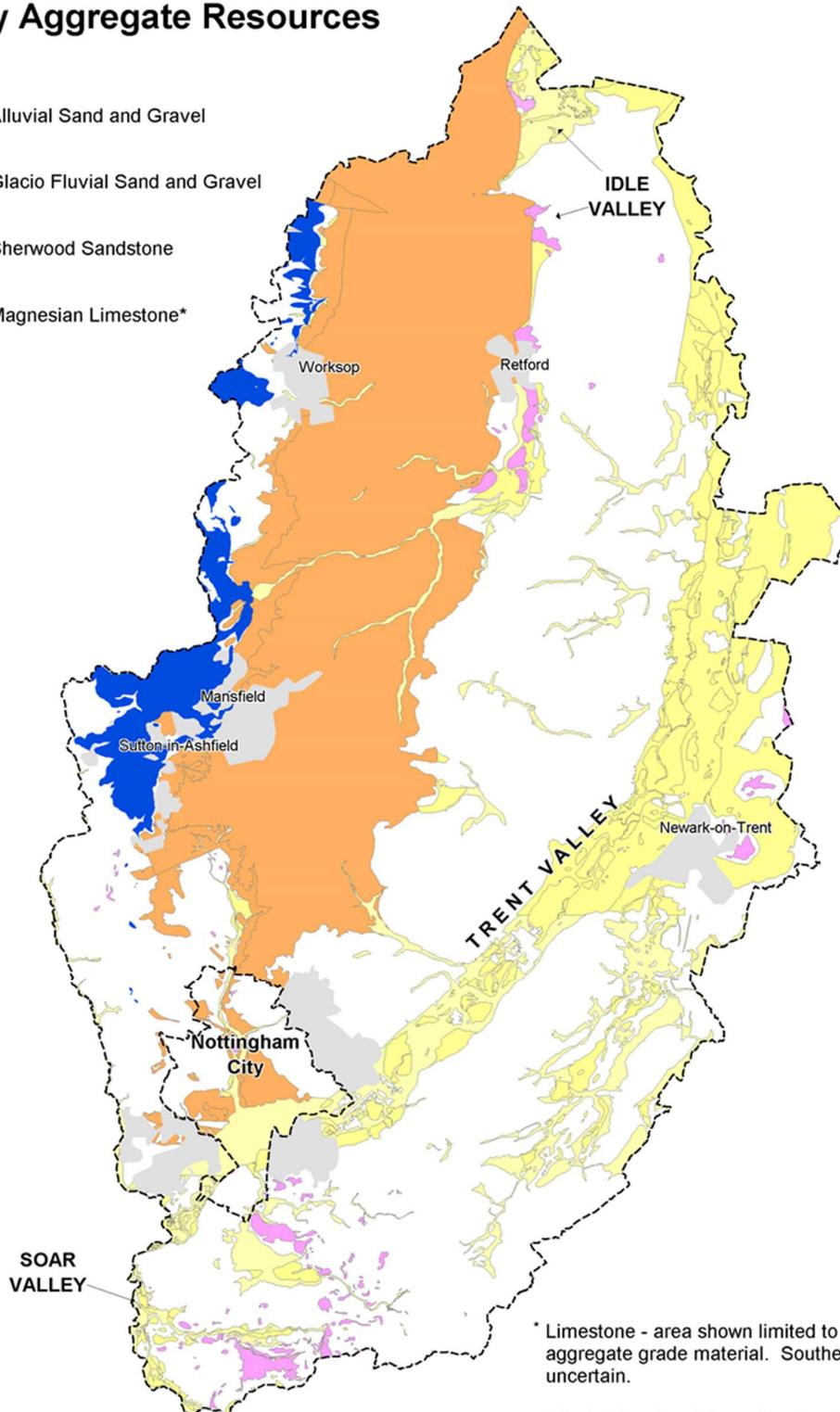
Magnesian Limestone

- 2.5 This resource occurs as a relatively narrow belt to the west of the Sherwood Sandstone. This outcrop comprises the southernmost limits of the UK's second largest limestone resource that extends from the Durham coast through Yorkshire into Derbyshire and Nottinghamshire. Limestone suitable for use as an aggregate is only found in the Mansfield area and to the north where the mineral is used mainly as a road sub-base material although some mineral is of industrial grade quality. Production is relatively small scale and the lowest in the East Midlands. Around Linby the limestone is suitable for building and ornamental purposes, although aggregates can be produced as a by-product of utilising reject building stone.

Plan 1 - Nottinghamshire - Primary Aggregate Resources

Key

- Alluvial Sand and Gravel
- Glacio Fluvial Sand and Gravel
- Sherwood Sandstone
- Magnesian Limestone*



* Limestone - area shown limited to aggregate grade material. Southern limit uncertain.

* Alluvial Sand and Gravel - minor tributaries and glaciofluvial - economic potential limited.

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 British Geological Survey. 2013. Digital Geological Map of Great Britain 1:625 000 scale (DiGMapGB-625)
 Superficial Deposits data [CD-Rom] Version 1.10. Keyworth, Nottingham: British Geological Survey.
 Release date 30-04-2003

Alternative aggregates

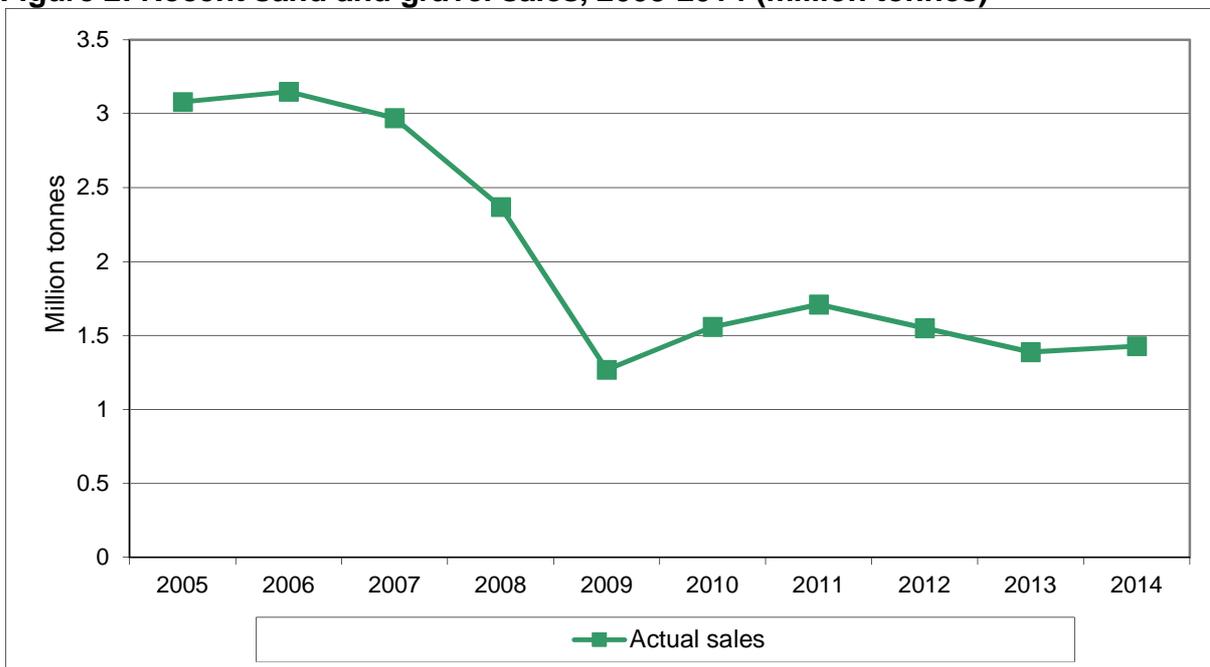
- 2.6 Alternative aggregates comprise secondary and recycled materials, although these terms are often used interchangeably. Recycled aggregates are materials that have been used previously and include some types of construction and demolition waste, asphalt road planings and used railway ballast. Secondary aggregates are by-products of other processes that have not been previously used as aggregates. They include colliery spoil, china clay waste, slate waste, power station ashes, blast furnace and steel slag, incinerator ashes and foundry sands.
- 2.7 Alternative aggregates are currently most widely used in lower grade applications such as bulk fill. However, the range of uses is widening due to advances in technology and the increasing economic incentive to use them instead of primary aggregates.
- 2.8 In Nottinghamshire, sources of alternative aggregates include construction and demolition waste, power station ash, river dredgings, road planings and rail ballast.

Local production

Sand and gravel

- 3.1 Sales reached a peak of 3.15 million tonnes in 2006, before falling sharply from 2007 onwards (in line with national sales) to just 1.27 million tonnes in 2009, the lowest production figure since records began in 1973. This was a result of both the recession and production at Finningley quarry temporarily moving across the county boundary into Doncaster. Sales increased slightly in 2010 and 2011 as a result of extraction restarting at Finningley quarry and increased sales elsewhere in the county before falling slightly in 2013 and remaining broadly flat in 2014. See Figure 2 below.

Figure 2: Recent sand and gravel sales, 2005-2014 (million tonnes)



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Sales (Million tonnes)	3.08	3.15	2.97	2.37	1.27	1.56	1.71	1.55	1.39	1.43

Resources and landbank

- 3.2 There are 12 permitted sand and gravel sites in Nottinghamshire although at present only 9 are being worked. As of December 2014 the landbank stood at 8.03 years equal to 16.46 million tonnes. This is above the minimum 7 year landbank requirement set out in the NPPF. It is worth noting that the data used to calculate the landbank figures changed in 2015 from using the adopted Minerals Local Plan apportionment figure to use the most recent 10 year sales average set out in table 4. This is in line with guidance set out in the National Planning Practice Guidance.

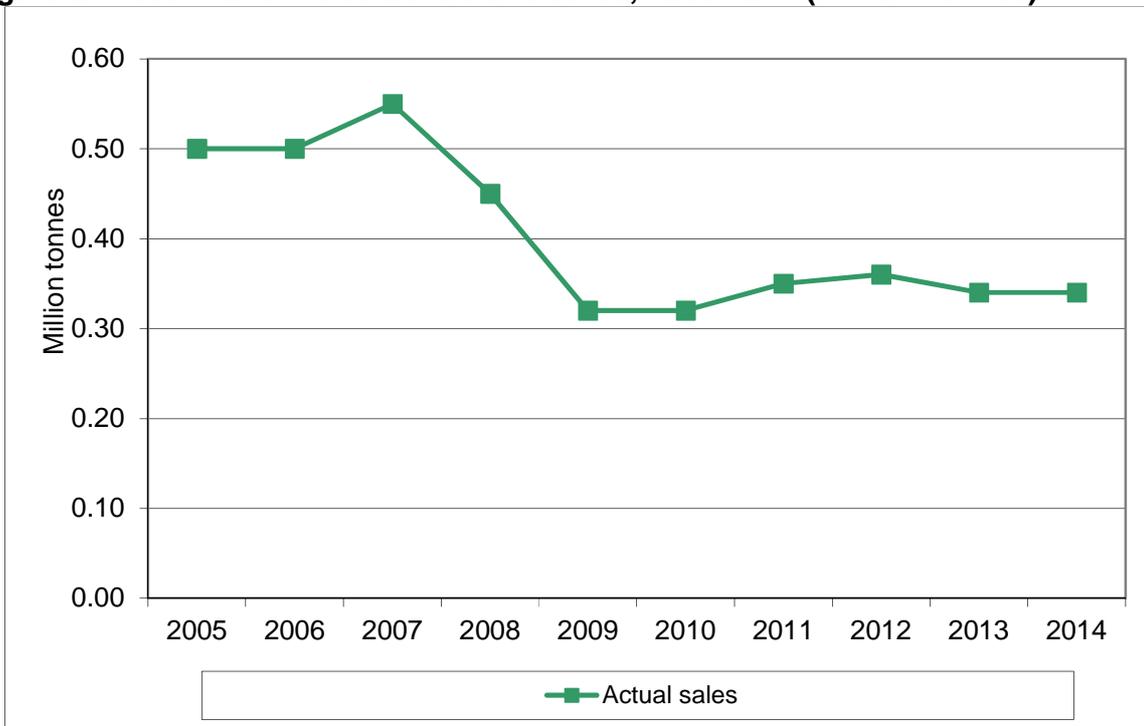
Table 2: Permitted sand and gravel quarries in Nottinghamshire

Site	Operator	Status
Langford Lowfields	Tarmac	Active
Girton	Tarmac	Active (working from stockpiles)
Besthorpe	Tarmac	Active
Sturton Le Steeple	Tarmac	Yet to be worked
East Leake	CEMEX	Active
Cromwell	CEMEX	Yet to be worked
Misson West	Hanson	Active
Misson Newington	Hanson	Active
Scrooby	Rotherham Sand & Gravel	Active
Mattersey	Rotherham Sand & Gravel	Dormant
Finningley	Tarmac	Active
Misson Bawtry Road	Rowley	Active

Sherwood Sandstone

3.3 Historically Sherwood Sandstone sales have been much lower than sand and gravel sales as it is generally used in different, more specialist markets. Between 2005 and 2007 it remained relatively stable at around 0.5-0.6 million tonnes. Sales fell significantly from 2007, to lows of just 0.32mt in 2009 and 2010 as a result of the recession. Sales increased slightly in 2011 and 2012 but remained flat in 2013 and 2014. See Figure 3 below.

Figure 3: Recent Sherwood Sandstone sales, 2005-2014 (million tonnes)



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Sales (million tonnes)	0.50	0.50	0.55	0.45	0.32	0.32	0.35	0.36	0.34	0.34

Resources and landbank

- 3.4 There are seven permitted Sherwood Sandstone quarries (Table 2) although at present only six are being worked. As of December 2014 the landbank stood at 14.87 years equal to 5.95 million tonnes. This is above the minimum 7 year requirement. It is worth noting that the data used to calculate the landbank figures changed in 2015 from using the adopted Minerals Local Plan apportionment figure to use the most recent 10 year sales average set out in table 5. This is line with guidance set out in the National Planning Practice Guidance.

Table 3: Permitted Sherwood Sandstone quarries in Nottinghamshire

Site	Operator	Status
Burntstump	Tarmac	Active
Bestwood 2	Tarmac	Active
Carlton Forest	Tarmac	Active
Ratcherhill	Mansfield Sand Company	Active
Two Oaks Farm	Mansfield Sand Company	Active
Scrooby Top	Rotherham Sand & Gravel	Active
Serby	Rotherham Sand & Gravel	Dormant

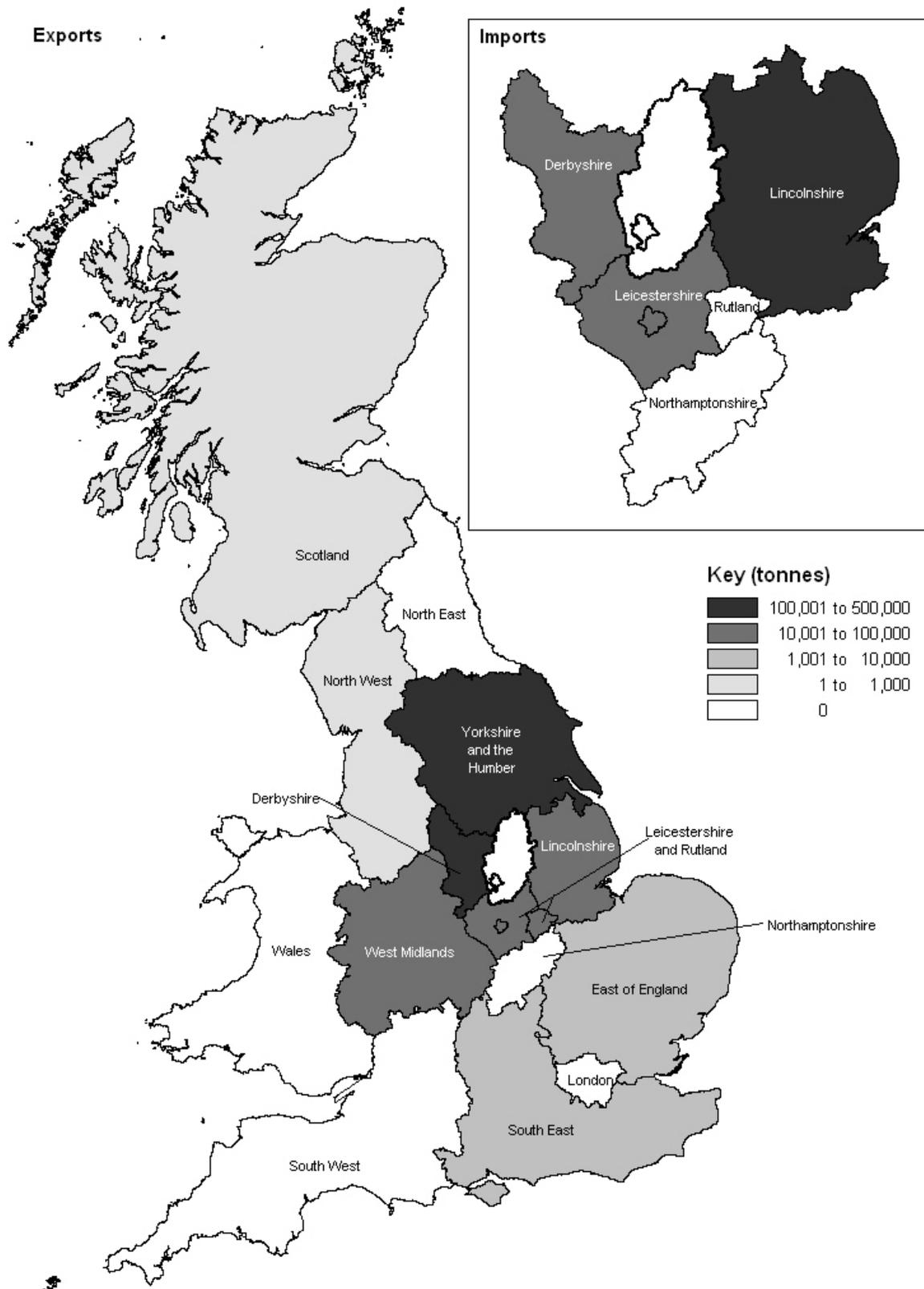
Imports and exports of sand and gravel (including Sherwood Sandstone)

- 3.5 Imports and exports of aggregates are only recorded in the full surveys undertaken by the East Midlands Aggregate Working Party (EMAWP). The most recent full survey was undertaken in 2014. However, at the time of publishing the LAA only the export data was available from the 2014 survey. Therefore, data from both the 2009 and 2014 surveys are included within this LAA in order to present a full picture. The surveys do not include a breakdown for Sherwood Sandstone, hence all sand and gravel import and export figures in this report include Sherwood Sandstone.
- 3.6 In 2009, imports of sand and gravel (including Sherwood Sandstone) from the East Midlands were very small in comparison to the amount extracted from the County's own quarries (250,000 tonnes compared to 1.60 million tonnes). It is likely that these imports supply markets close to the county boundary.
- 3.7 In 2009 52% of the sand and gravel (including Sherwood Sandstone) extracted in Nottinghamshire was exported out of the county (comprising of 22% to the East Midlands and 30% elsewhere). This is in part due to the high strength quartzite gravel that meets the specifications for making high strength concrete. The main export markets are South Yorkshire and neighbouring authorities in the East Midlands although some is transported a much greater distance. See Figure 4 below.
- 3.8 The 2014 data shows a distinct shift in this pattern with 72% of the sand and gravel (including Sherwood Sandstone) extracted in Nottinghamshire being exported

(comprising 19% to the East Midlands and 52% elsewhere). South Yorkshire and East Midland authorities continue to be the main export markets, with South Yorkshire taking the largest proportion of exports (a change from the 2009 data where the largest proportion of exports was to the East Midlands authorities).

- 3.9 It should be noted that the 2014 data includes around 210,000 tonnes of sand and gravel with an unknown destination, which may be affecting the trends set out above.
- 3.10 Figure 4 sets out the latest available data on import and exports of sand and gravel.

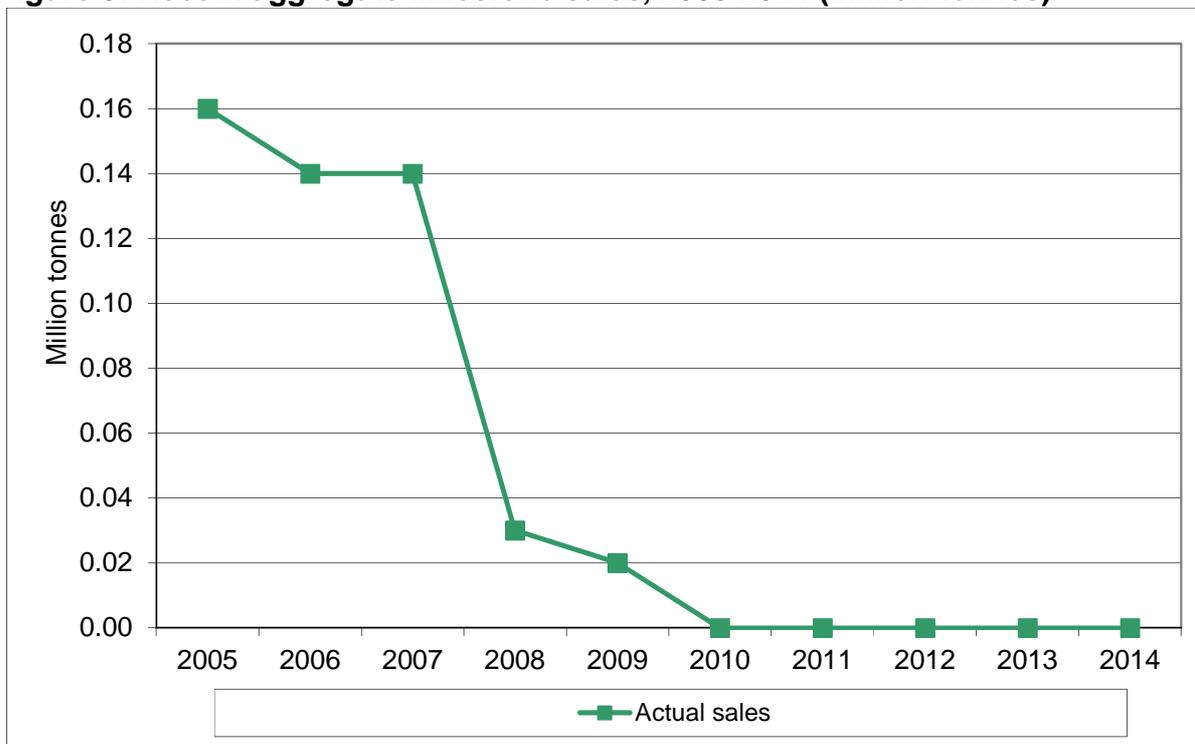
Figure 4: Sand and gravel (including Sherwood Sandstone) imports and exports, 2009 (tonnes)



Aggregate Limestone

- 3.11 Limestone sales in Nottinghamshire over the last 10 years have been low by regional standards. Sales fell sharply from 2006 onwards, and from 2009 output was recorded as zero. See figure 5 below.

Figure 5: Recent aggregate limestone sales, 2005-2014 (million tonnes)



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Sales (million tonnes)	0.14	0.14	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00

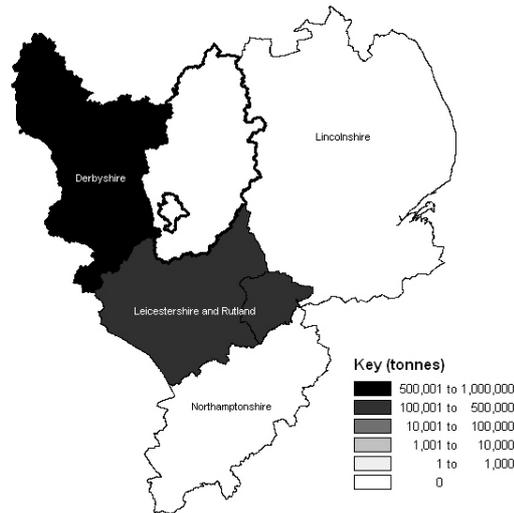
Resources and landbank

- 3.12 Nottinghamshire only has one dedicated aggregate limestone quarry (at Nether Langwith) and is only worked seasonally as it serves as a satellite to a much larger quarry in Derbyshire. Some aggregate is also produced from reject stone at a building stone quarry although this tonnage is small. As of December 2014 the landbank stood at 66.8 years, equal to 3.34 million tonnes. This is significantly above the minimum of 10 years. It is worth noting that the data used to calculate the landbank figures changed in 2015 from using the adopted Minerals Local Plan apportionment figure to use the most recent 10 year sales average set out in table 6. This is in line with guidance set out in the National Planning Practice Guidance.

Imports and exports of aggregate limestone

- 3.13 Limestone resources in Nottinghamshire and Nottingham are relatively limited therefore the majority of limestone used is imported from Derbyshire and Leicestershire (see Figure 6). No mineral was exported at the time of the 2014 East Midlands Aggregate Working Party survey.
- 3.14 The Derbyshire LAA states that over the period to 2030 adequate reserves remain to meet expected future demand from outside Derbyshire. This takes into account the reduction in output from the Peak District National Park. The Leicestershire LAA also states that adequate reserves remain to meet expected future demand over the plan period.

Figure 6: Aggregate limestone imports, 2009 (tonnes)



Alternative aggregates

- 3.15 Production figures for secondary and recycled aggregates are limited to national estimates. Since 1980 there has been a significant increase in annual alternative aggregate production in Great Britain, rising from 20 million tonnes to 71 million tonnes by 2007. It has since fallen back to 61 million tonnes in 2014¹ due to the wider fall in aggregate production as a result of the recession. It is estimated that alternative aggregates currently make up around 30% of aggregate use, three times higher than the European average. Current forecasts for the East Midlands suggest an annual production of 6.8 million tonnes per annum up to 2020².

¹ Minerals Products Association – Sustainable Development Report 2015

² East Midlands Aggregate Working Party - Annual Survey and Report 2011

3.16 Local data for alternative aggregates is very limited however the main types of alternative aggregates in Nottinghamshire are set out below:

Power station ash

3.17 Fly ash and furnace bottom ash from power stations can be used as alternatives to virgin aggregates in the manufacture of concrete, cement and other construction materials. Nottinghamshire has three power stations which produce around 1.7 million tonnes of ash each year³. There is limited local information as to how much of the ash is sold, but nationally around 70 per cent of total fly ash and 100 per cent of furnace bottom ash produced in 2014 was sold for use in construction products and engineering materials. The remaining material is often stored in stockpiles and can be sold at a later date⁴.

Construction and demolition waste

3.18 Construction and demolition waste is made up of a range of materials including rubble, metals, glass, plastic and other construction materials.

3.19 National estimates suggest that around 80-90% of construction and demolition waste is re-used or recycled. Old concrete and rubble is often crushed on site using mobile processing plant and used in situ as bulk fill. The remainder of the materials such as metal is taken off site and sent to be processed elsewhere.

3.20 There are no up to date figures for construction and demolition waste in Nottinghamshire but estimates suggest that around 1 million tonnes was produced in 2010/11.

3.21 There are 11 dedicated aggregates recycling facilities which have a maximum permitted capacity of 1.1 million tonnes however actual throughput could vary significantly. There are also 22 general transfer facilities which are able to handle construction and demolition waste but no separate data on capacity is available.

Used rail ballast crushing

3.22 Worn out rail ballast is taken by rail to recycling centres for crushing into aggregate. As this material comprises high quality limestone or granite it can be re-processed for high-grade uses. In Nottinghamshire there is a railway ballast recycling centre at Toton railway sidings in Stapleford with an annual output of up to 200,000 tonnes.

3.23 Further information is included in the background paper on alternative aggregates and also in the Nottingham and Nottinghamshire Waste Core Strategy documents.

³ East Midlands Aggregate Working Party - Annual Survey and Report 2011

⁴ UK Quality Ash Association

Future Aggregate Provision

- 4.1 In order to provide a steady and adequate supply of aggregates over the plan period, the NPPF states that an LAA should be prepared based on the last 10 years average sales data taking into account any important local considerations and national and sub national guidelines.

National and Sub-National Aggregate Guidelines

- 4.2 Prior to the introduction of the NPPF, the supply of land-won aggregates in England was based on national and sub national guidelines for aggregates provision published by DCLG. The most recent guidelines covering the period 2005-2020 were published in 2009.
- 4.3 The East Midlands Aggregate Working Party used these guidelines to produce draft apportionment figures for each MPA. The figures were then approved by the East Midlands Regional Assembly in 2010 and were to be incorporated into the Regional Plan via the review process. However due to the abolition of the Regional Spatial Strategy the figures were never adopted.
- 4.4 It was decided at the Aggregate Working Party meeting in February 2013 that the draft 2009 figures are now considered out of date as they were only based on aggregate output from a period of economic growth, and should, therefore, not be taken into account when determining the new apportionment figures.

Future monitoring

- 4.5 Demand will be reviewed annually through the LAA using the 3 and 10 year sales averages as the key evidence base specifically monitoring trends. Annual monitoring of the Local Plan will also take place based on the updates to the LAA and if required early review may be necessary.

Sand and gravel provision

- 4.6 By far the greatest planning issue for Nottinghamshire and Nottingham is the long term provision of sand and gravel over the plan period.
- 4.7 Based on the most recent data from 2014, the 10 year average figure stands at 2.05 million tonnes. This figure has steadily fallen since the first figures were collated for the 2011 LAA and reflects the continued low level of economic output. The three year figure stands at 1.46 million tonnes. Table 3 sets out the average production figures.

Table 4: Sand and Gravel average sales figures

	2013 LAA (2002-2011)	2014 LAA (2003-2012)	2015 LAA (2004-2013)	2016 LAA (2005-2014)
10 year average sales (million tonnes)	2.58	2.43	2.24	2.05
3 year average sales (million tonnes)	1.51	1.61	1.55	1.46

Resource depletion in the Idle Valley

- 4.8 The Idle Valley, located in the north of the County has a long history of sand and gravel extraction. Traditionally a large proportion of this has supplied markets in Rotherham and Doncaster due to its close proximity and limited mineral reserves elsewhere.
- 4.9 Resource depletion is now starting to limit output, and since 2003 the number of active quarries has fallen from 9 to 5. This has seen capacity fall from around 1.5 million tonnes in 2003 to just under 700,000 tonnes in 2014. Some of the loss in capacity is due to the delay in implementing the permitted quarry at Sturton Le Steeple.
- 4.10 The Nottinghamshire Minerals Local Plan – Submission Draft consultation document published in February 2016 identifies 5 potential new site allocations in the Idle Valley / North Nottinghamshire. This is made up of 2 new sites - Barnby Moor and Botany Bay and 3 extensions to existing sites at Bawtry Rd North, Scrooby North and Scrooby South. The potential allocations identified in this area are the total extent of all those put forward by the industry as part of the call for sites.
- 4.11 The impact of resource depletion in the Idle Valley on the Rotherham and Doncaster markets is discussed further in the following chapter.

Marine won sand and gravel

- 4.12 Marine won sand and gravel is not used in Nottinghamshire due to the availability of locally sourced land won material and the high costs involved in transporting the mineral long distances. It is therefore assumed that marine sources are not a significant issue for Nottinghamshire and will therefore not form part of this assessment.

Sherwood Sandstone provision

- 4.13 Sherwood Sandstone sales are much lower than sand and gravel and historically has been in steady decline. This along with the drop in sales due to the recession is reflected in the most recent 10 year average figure of 0.40 million tonnes. The 3 year average figure is 0.35 million tonnes. Table 4 sets out average sales figures.

Table 5: Sherwood Sandstone average sales figures

	2013 LAA (2002-2011)	2014 LAA (2003-2012)	2015 LAA (2004-2013)	2016 LAA (2005-2014)
10 year average sales(million tonnes)	0.46	0.44	0.42	0.40
3 year average sales (million tonnes)	0.33	0.34	0.35	0.35

No additional specific local factors have been identified when considering the future apportionment for Sherwood Sandstone.

Limestone provision

- 4.14 Limestone is only worked from one quarry in Nottinghamshire and production has been minimal due to the seasonal working of the site and abundance of limestone worked in Derbyshire and Leicestershire.
- 4.15 The 10 year average figure is 0.03 million tonnes which reflects higher output levels earlier in the 10 year period. The 3 year average figure is 0.00 million tonnes. See Table 5.

Table 6: Limestone average sales figures

	2013 LAA (2002-2011)	2014 LAA (2003-2012)	2015 LAA (2004-2013)	2016 LAA (2005-2014)
10 year average sales (million tonnes)	0.08	0.06	0.05	0.03
3 year average sales (million tonnes)	0.00	0.00	0.00	0.00

Future provision

- 4.16 A pre-cast concrete factory was built near Worksop in 2009 and produces concrete structures on site for delivery and installation at construction sites. The factory uses crushed limestone as part of the production process.
- 4.17 Consumption has steadily increased since the factory was commissioned but remains relatively modest at around 40,000 tonnes per annum. The only limestone quarry in Nottinghamshire is currently mothballed so the factory is likely to be supplied from the nearby Whitwell quarry in Derbyshire.

Future Growth

National Infrastructure Projects identified for Nottinghamshire

- 5.1 The two previously identified infrastructure projects identified for Nottinghamshire in the 2013 National Infrastructure Plan – NET Phase 2 and the A453 widening have now been completed. The 2014 National Infrastructure Plan identifies the M1 ‘smart motorway’ improvements (currently underway) and The Midland Main line electrification programme expected around 2019. Although some mineral will be required for these projects it’s not expected to increase demand significantly.
- 5.2 Looking to the future, Highways England is currently considering a scheme to improve the A46/A1 junction and the A46 around Newark. An exact date for this to commence has yet to be confirmed although it could begin between 2020 and 2025. The High Speed 2 line (HS2) phase two is also proposed to pass along the western boundary of the county. At this stage it is difficult to identify a start date for the section of the line near Nottinghamshire.
- 5.3 It is likely that both the schemes above could increase demand for minerals in Nottinghamshire, however given the current lack of detail, the amount of mineral required is uncertain. Future LAAs will continue to monitor progress on these schemes.

Annual Mineral Raised Inquiry survey

- 5.4 The Annual Minerals Raised Inquiry (AMRI) survey is an annual survey undertaken by the Office for National Statistics which collects, collates and publishes a comprehensive set of statistics for the production of minerals. The survey covers all mineral working sites across the whole of Great Britain. The most recent version was published in March 2016 and includes 2014 data.
- 5.5 The data contained in the previous versions of the AMRI show that national sales hit a low in 2012 of just over 50 million tonnes, however sales have increased since and in 2014 stood at just over 56 million tonnes. This data should be used with caution when looking at the position within Nottinghamshire however it does show that for Great Britain as a whole there has been an increase in sales activity.

Population forecasts

- 5.6 The population of Nottinghamshire (the geographic County, including Nottingham City) is expected to grow over the next 15 years at a rate of around 7.7%⁵. This equates to approximately 5.4% over the next 10 year period and is comparable to previous population growth over the period of 2003-2012 (10 years) of 6.5% This development is

⁵ Based on Office for National Statistics (2012-based) population projections

likely to be focused around the existing major urban areas of the Nottingham conurbation, Newark and Mansfield, however it is difficult to make direct comparisons between population growth and minerals use.

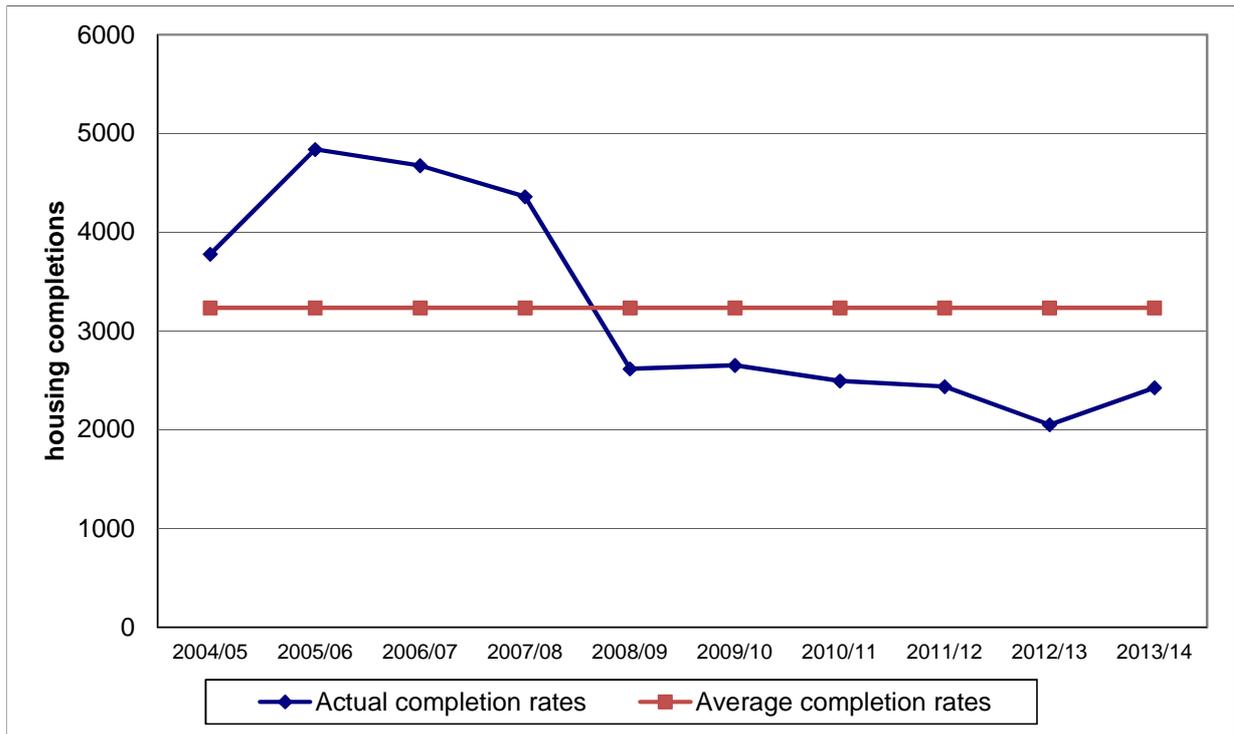
House building

- 5.7 Nottingham City and the District/Boroughs throughout the County are at different stages of their Local Plan preparations, however, all have identified their future housing requirements set out over different time periods. Planned house-building rates for the area are estimated at 4,450 dwellings per annum. See table 7. Average completions over the last ten year period have been 3,230. Completions peaked at 4,839 in 2005/2006 see figure 7.
- 5.8 Depending on future local economic conditions, housing completions are expected to increase over the life of the plan period, however there is some uncertainty regarding the potential achievement of the planned housing completion rates. As with sand and gravel production, the 10 year average completion figures provide a useful insight into likely completion rates as it takes in to account both a period of significant growth as well as the period of recession.

Table 7: Future house building rates per annum

District/Borough	Requirement	Requirement (per annum)
Ashfield District Council Ashfield Local Plan Preferred Approach, January 2016	8,268 dwellings (2015 to 2032)	486 dwellings
Bassetlaw District Council Bassetlaw Core Strategy and Development Management Policies DPD, December 2011	6,384 dwellings (2010-2028)	355 dwellings
Broxtowe Borough Council Greater Nottingham Aligned Core Strategies Part 1 Local Plan, September 2014	6,150 dwellings (2011-2028)	362 dwellings
Gedling Borough Council Greater Nottingham Aligned Core Strategies Part 1 Local Plan, September 2014	7,250 dwellings (2011-2028)	426 dwellings
Mansfield District Council Mansfield Local Plan Consultation Draft, January 2016	7,520 dwellings (2013-2033)	376 dwellings
Newark and Sherwood District Council Newark and Sherwood Core Strategy, March 2011	14,800 dwellings (2006-2026)	740 dwellings
Nottingham City Council Greater Nottingham Aligned Core Strategies Part 1 Local Plan, September 2014	17,150 dwellings (2011-2028)	1,009 dwellings
Rushcliffe Borough Council Rushcliffe local Plan Part 1: Core Strategy, December 2014	13,150 dwellings (2011-2028)	774 dwellings
	TOTAL	4,528 dwellings

Figure 7: Housing completions in Nottinghamshire



- 5.9 It is also important to note that whilst house building uses a significant amount of aggregates, the Minerals Product Association estimate that new house building only makes up approximately 20% of overall aggregate use and therefore is only part of the equation when considering future demand.

Future demand from the Rotherham and Doncaster markets

- 5.10 As mentioned earlier, Nottinghamshire has historically supplied a large proportion of sand and gravel to the Doncaster and Rotherham markets from the Idle Valley. The most recent Aggregate Working Party full survey undertaken in 2009 estimated that approximately 30% of Nottinghamshire's output was transported to the Doncaster and Rotherham markets. The export figure of around 30% is comparable to the previous full survey undertaken in 2005. As such 30% of Nottinghamshire's output based on the demand forecast identified in the Submission Draft figure (2.58 million tonnes) is 774,000 tonnes per annum. (This will be updated using the 2014 full survey data when available)

- 5.11 The Rotherham and Doncaster Local Aggregates Assessment 2015 states that there are limited sand and gravel resources remaining in the area and that current permitted reserves may not be adequate to cover the proposed plan period. Previous Rotherham and Doncaster LAAs have stated that the sand and gravel shortfall could be up to 6.65 million tonnes, however an up to date figure is not currently available. The most recent Rotherham and Doncaster landbank stands at 11.5 years.
- 5.12 Given that Nottinghamshire has traditionally supplied sand and gravel to these areas at a much higher level, the identified shortfall is unlikely to be completely new demand that Nottinghamshire would have to meet on top of the existing supply. Bearing in mind the above, it is likely that in the short term, output from the Idle Valley/north Nottinghamshire will be maintained at current levels from permitted reserves.
- 5.13 A permitted but unused quarry at Sturton Le Steeple with an estimated output of 500,000 tonnes per annum has yet to be worked by the operator presumably due to lack of demand. If opened this quarry would provide a valuable long term source of sand and gravel to supply North Nottinghamshire and the Rotherham and Doncaster markets. The operator has informed the County Council that this site is likely to be opened in 2017 and has a life of approximately 20 years. In addition for the medium term the Minerals Local Plan Submission Draft document published in February 2016 identifies a number of potential allocations in the Idle Valley.
- 5.14 Longer term, output from the Idle Valley is likely to fall as the remaining reserves are used up and will be monitored through the LAA process. If sand and gravel from Nottinghamshire continues to supply this market in the longer term it would need to be sourced from the Trent Valley close to Newark, a significantly greater distance from the markets. In this scenario other resources outside of Nottinghamshire may start become increasingly viable, however at this stage it is difficult to predict the extent of this. It is important to note the LAA is reviewed annually and an Annual Monitoring Report is prepared by the County Council to monitor the effectiveness of the Local Plan, if a shortfall in provision is identified, then early review of that element of the Plan will be necessary.
- 5.15 A joint minerals position statement has been agreed between Nottinghamshire County Council and Doncaster MBC which identifies the above issues and states that provision from Nottinghamshire will continue in the short term however long term reserves are less certain. Further discussions will be required in the future.

Conclusion

- 6.1 The requirement to prepare a Local Aggregates Assessment (LAA) was introduced through the publication of the National Planning Policy Framework (NPPF) in March 2012. The LAA should include the latest 10 years average sales data taking into account any important local considerations and national and sub national guidelines on aggregate provision. The data contained in the LAA will then enable the Minerals Planning Authorities (MPAs) to make provision for a steady and adequate supply of aggregate minerals in their area over the life of the Nottinghamshire Minerals Local Plan.
- 6.2 The recession has seen aggregate sales at a local and national level fall significantly since 2007. In Nottinghamshire this can be seen most dramatically with sand and gravel sales in 2009 which fell to their lowest level since records began.
- 6.3 The provision of sand and gravel is the biggest issue for Nottinghamshire and Nottingham over the plan period with resource depletion in the Idle Valley likely to be the biggest factor potentially influencing exports to South Yorkshire. The extent of the impact will depend on the level of demand (due to the economic conditions) over the plan period, but it is likely that sand and gravel will either be sourced from quarries around Newark or from other markets beyond Nottinghamshire to meet demand which could affect the amount of mineral being provided.
- 6.4 Sherwood Sandstone production is much lower than sand and gravel and over the plan period no specific issues have been identified.
- 6.5 Limestone production is very low due to the limited reserves however demand in the County could increase in the future due to the recently built pre-cast concrete factory. Although the only permitted quarry in Nottinghamshire is currently mothballed, reserves at the quarry are likely to be sufficient for the plan period. Significant reserves are also available at Whitwell quarry which, although in Derbyshire, is in easy reach of the factory.
- 6.6 The construction of the NET Phase 2 and the A453 widening have now been completed. Longer term, the proposed route of the HS2 and the potential highway improvements to the A46/A1 junction and the A46 near Newark could increase demand for aggregates, however the exact detail of these schemes is unclear at present. An increase in house building is likely from that seen during the economic downturn however, the overall the rate of housing completions is likely to be similar to the average rate experienced over the past 10 years. Previous levels of higher housing completions are also reflected in 10 year average sales figures.
- 6.7 The latest 10 year average sales figures have fallen for all aggregate minerals since the first LAA was compiled in 2013, however the 3 year averages for sand and gravel and Sherwood Sandstone have remained broadly stable. The 3 year average for limestone has remained unchanged.
- 6.8 The minerals plan needs to identify a steady and adequate supply of aggregates to meet expected demand over the plan period to 2030. The 10 year average set out in the 2013

LAA (used in the emerging minerals plan) takes account of both a period of economic growth and recession, and is seen as being more robust than the latest 10 year average that is influenced by a greater period of low demand. Annual monitoring will be undertaken to ensure that adequate reserves are identified over the plan period.

- 6.9 This LAA will be monitored annually alongside the annual monitoring of the Minerals Local Plan (when adopted). The monitoring of the levels of demand from significant new infrastructure projects will also be key and will be undertaken through the annual review of the LAA. This will ensure that there is an adequate and steady supply of aggregate minerals provided over the plan period and that any fluctuations in future requirements can be addressed.