

26th January 2017

Agenda Item: 4

REPORT OF THE CORPORATE DIRECTOR FOR PLACE**NOTTINGHAMSHIRE AND NOTTINGHAM LOCAL AGGREGATES
ASSESSMENT****Purpose of the Report**

1. To inform committee of the latest 2015 sales figures for aggregate minerals in Nottinghamshire and approve the 2017 Nottinghamshire and Nottingham Local Aggregates Assessment (LAA).

Information and Advice

2. As a Minerals and Waste Planning Authority, Nottinghamshire County Council is required to prepare a Minerals Local Plan against which applications for minerals development can be assessed. As part of the preparation of the new Plan, demand forecasts (apportionment figures) for aggregate minerals need to be identified to ensure that a steady and adequate supply of minerals can be provided over the plan period. The new Minerals Local Plan utilises the 2013 LAA 10 year average sales figures as a baseline for setting the requirement for aggregate minerals over the plan period. Future LAAs will be utilised to monitor the performance of the Local Plan (once adopted).
3. Previously, the process of determining local apportionments was based on national and regional aggregate demand forecasts published by central Government. The regional demand forecasts were then split between Minerals Planning Authorities, based on advice from the East Midlands Aggregate Working Party before being tested through the East Midlands Regional Spatial Strategy. The local apportionments were then adopted by the County Council in the Minerals Local Plan (2005). The last draft regional apportionment figures were published in 2009.
4. Since the draft regional apportionment figures were published in 2009, the planning system has changed considerably. Firstly, the East Midlands Regional Plan was abolished and secondly the National Planning Policy Framework (NPPF) and National Planning Policy Guidance (NPPG) has introduced new policy and guidance. In particular the NPPF introduced a requirement for Mineral Planning Authorities (MPA) to produce an annual LAA which identifies locally derived demand forecasts based on an average of 10 years sales data and other relevant local information. A 3 year average figure is also required to identify any upward trends in production at an early stage.

5. The framework also requires MPAs to continue to participate in an Aggregate Working Party (AWP); for Nottinghamshire this is the East Midlands AWP, and take advice from the group when preparing their LAA.

Nottinghamshire and Nottingham LAA

6. The NPPF states that as well as using the 10 year and 3 year average sales data, MPAs should take account of any local considerations when developing their demand forecasts (apportionments). This could for example include significant house or road building, new infrastructure for major projects or issues such as the exploitation of major new resources or resource depletion affecting future output.
7. The first annual LAA was produced in 2013 (covering the period 2002-2011) and formed the basis of the demand forecast for the new Minerals Local Plan as this was the most up to date data available at the time. Importantly the 10 year period contained similar periods of growth and recession providing a balanced approach to forecasting future demand.
8. The 2017 LAA includes the most recent aggregates sales and reserves data for the county. The 10 year period covered by this LAA is 2006-2015. The LAA is a technical document forming part of the evidence base to inform the Nottinghamshire Minerals Local Plan. Below is a summary of the findings. The 2017 LAA is attached in Appendix A.

Sand and gravel

9. Sand and gravel sales are very sensitive to economic conditions and as a result of the recession, fell between 2007 and 2010. Since 2010, sales have remained relatively stable.
10. The 2015 sales figure stood at 1.52 million tonnes, an improvement on 2014 sales which totalled 1.43 million tonnes. The 10 year sales average shows a decline due to the greater influence of sales since the recession in 2008. The 3 year average also shows a small drop in sales reflecting the recession. Tables 1a and 1b (below) set out the 10 year and 3 year trends. Figure 2 on Page 7 of the 2017 LAA (Appendix 1) sets out the previous 10 year annual sales information.

Sherwood Sandstone

11. Sherwood Sandstone sales are much lower than sand and gravel as it is used in more specialist markets. Sales have slowly declined since the mid-1990s. As with sand and gravel, sales fell significantly between 2007 and 2010 due to the recession. Since 2010 sales have remained relatively stable albeit at a lower level.
12. The 2015 sales figure stood at 0.38 million tonnes, a slight increase on 2014 sales which totalled 0.34 million tonnes. The 10 year sales average shows a small fall due to the greater influence of the recession on the 10 year monitoring period, however the 3 year average figure has increased. See tables 1a & 1b below. Figure 3 on Page 9 of the 2016 LAA (Appendix 1) sets out the previous 10 year annual sales information.

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

13. Imports and exports of aggregates are only recorded as a one year snap shot every four years as part of the full surveys undertaken by the East Midlands Aggregate Working Party (EMAWP). The most recent full survey was undertaken in 2014. The surveys do not include a breakdown for Sherwood Sandstone, hence all sand and gravel import and export figures include Sherwood Sandstone.
14. The amount of sand and gravel and Sherwood Sandstone known to be exported from Nottinghamshire in 2014 was 1.07 million tonnes, or 60% of the total amount extracted (1.77 million tonnes). However an additional 210,000 tonnes is classified as having an unknown destination. If this 210,000 tonnes was also exported the figure rises to 72%. However it should be noted that the export figure in 2009 (the last time such data was collected) was 52% so it is considered more likely that this 210,000 tonnes actually served markets within Nottinghamshire but unfortunately was not recorded as such.
15. The main export markets are Rotherham and Doncaster and neighbouring authorities in the East Midlands. This is due to limited reserves in these areas and the quality sand not meeting the specifications for making high strength concrete.
16. Imports of sand and gravel into Nottinghamshire from elsewhere in the East Midlands were lower compared to the amount extracted from the County's own quarries. However, the amount imported still totalled approximately 530,000 tonnes in 2014. It is likely that these imports supply markets close to the county boundary.

Crushed rock (including aggregate limestone)

17. Nottinghamshire only has one dedicated aggregate limestone quarry (at Nether Langwith). The quarry was originally opened to supplement a much larger quarry in Derbyshire, however it has been inactive for a number of years. No sales were recorded in 2015, in line with previous years. Figure 5 on Page 12 of the 2017 LAA (Appendix 1) sets out the previous 10 year annual sales information.

Imports and exports of crushed rock

18. Limestone resources in Nottinghamshire and Nottingham are relatively limited and therefore all crushed rock used in Nottinghamshire is imported. The 2014 Aggregates Minerals Survey states that 1.26 million tonnes was imported predominantly from Leicestershire, Derbyshire (including the Peak District National Park Authority) and Yorkshire and Humberside (predominately Doncaster Metropolitan Borough Council).

Table 1a - 10 year average sales figures (million tonnes)

	2013 LAA (2002-2011)	2014 LAA (2003-2012)	2015 LAA (2004-2013)	2016 LAA (2005-2014)	2017 LAA (2006-2015)
Sand and gravel	2.58	2.43	2.24	2.05	1.89
Sherwood Sandstone	0.46	0.44	0.42	0.40	0.39
Limestone	0.08	0.06	0.05	0.03	0.02

Table 1b - 3 year average sales figures (million tonnes)

	2013 LAA (2002-2011)	2014 LAA (2003-2012)	2015 LAA (2004-2013)	2016 LAA (2005-2014)	2017 LAA (2006-2015)
Sand and gravel	1.51	1.61	1.55	1.46	1.45
Sherwood Sandstone	0.33	0.34	0.35	0.35	0.37
Limestone	0.00	0.00	0.00	0.00	0.00

Alternative Aggregates

19. Alternative aggregates are made up of recycled and secondary materials and includes some types of construction and demolition waste, asphalt road planings, Desulphogypsum (DSG) and ash from power stations.
20. There has been a national increase in the use of alternative aggregates over the last 30 years, peaking at 71 million tonnes in 2007. Production in 2015 stood at 63 million tonnes reflecting the current demand for aggregates as a whole. It is estimated that alternative aggregates make up around 29% of total aggregate use – three times higher than the European average.
21. The British Geological Survey and Minerals Products Association acknowledge that further significant growth is likely to be limited due to the high levels that are already being recycled along with changing construction methods which are also likely to reduce the availability and quality of these materials in the future.
22. The amount of DSG and ash available in the future is also likely to be limited as coal fired power stations reduce output and / or are decommissioned.
23. Local data for alternative aggregates remains limited, however the 10 year sales average for each of the aggregate minerals take account of sales of both primary and recycled aggregates. Therefore estimates of future requirements set out in the LAA already take account of the proportion being met from alternative aggregates and represent the amount of additional primary aggregate needed.

Additional demand for aggregates in Nottinghamshire

24. Along with the 10 year average, the LAA is required to take account of other relevant local information in regard to additional future demand. This includes any significant infrastructure projects, future house building and population growth. Future infrastructure projects are likely to include improvements to the A1/A46

junction near Newark and The High Speed 2 line which is proposed to pass along the western boundary of the county. Based on the District and Borough Local Plans, it is estimated that approximately 4,500 dwellings per annum will be built in Nottinghamshire over the plan period. Future demand from outside the county – particularly from Rotherham and Doncaster is also taken into account.

National sales

25. The Annual Minerals Raised Inquiry (AMRI) survey published by the Office for National Statistics provides data on national sales. The most recent version published in March 2016 covering 2014 data shows that national sales are steadily increasing from the low point experienced in 2012.

East Midlands sales

26. The EMAWP Annual Monitoring Report collates data relating to aggregates sales for each Minerals Planning Authority in the East Midlands. (The sales data for Nottinghamshire has been used in this report). In summary sand and gravel sales across the East Midlands in 2015 have increased by 5.9% when compared to 2014 figures.

Targeted consultation

27. As required by national planning guidance, the 2017 Local Aggregates Assessment has been submitted to the EMAWP and other Mineral Planning Authorities. This is to ensure that all relevant issues have been addressed when considering future demand. No concerns were raised by the Aggregate Working Party and other Minerals Planning Authorities. The 2017 LAA can be found in Appendix 1.

Conclusion

28. The 2015 data shows that sales of sand and gravel have increased (1.52 million tonnes) compared to sales in 2014 (1.43 million tonnes). Sherwood Sandstone sales have increased (0.38 million tonnes) compared to sales in 2014 (0.34 million tonnes). The 10 year average sales figures have fallen, however this is a direct result of the 10 year period taking into account a greater proportion of recession data. The 3 year sales average for sand and gravel has fallen but the Sherwood Sandstone figure has increased compared with the previous figure.

29. The LAA is produced annually and will be used to monitor production.

Other Options Considered

30. The only other option would be not to approve the LAA but the production of this document is a Government requirement as set out in the NPPF and Managed Aggregate Supply System (MASS) guidance.

Reason for Recommendation

31. To agree the 2017 Nottinghamshire and Nottingham Local Aggregates Assessment as it forms part of the evidence base of the Nottinghamshire Minerals Local Plan. Production of Minerals Local Plan and associated documents is a statutory requirement.

Financial implications

32. There are no direct financial implications arising from the contents of this report however, the City Council now contribute £750 per annum towards the production of the document.

Statutory and Policy Implications

33. This report has been compiled after consideration of implications in respect of finance, the public sector equality duty, human resources, crime and disorder, human rights, the safeguarding of children, sustainability and the environment and those using the service and where such implications are material they are described below. Appropriate consultation has been undertaken and advice sought on these issues as required.

RECOMMENDATION/S

34. That Committee:
- a. Note the 2015 aggregate sales figures; and
 - b. Approve the 2017 Nottinghamshire and Nottingham Local Aggregates Assessment.

Adrian Smith
Corporate Director, Place

For any enquiries about this report please contact: Steven Osborne-James,
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Background Papers

Except for previously published documents, which will be available elsewhere, the documents listed here will be available for inspection in accordance with Section 100D of the Local Government Act 1972.

Constitutional Comments (RCH 6/1/17)

35. Environment and Sustainability Committee is the appropriate body to consider the contents of this report.

Financial Comments (SES 14/12/16)

36. There are no specific financial implications arising directly from this report.

Electoral Division(s) and Member(s) Affected

All



Nottinghamshire and Nottingham Local Aggregates Assessment

January 2017



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Summary

This is the fifth 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 authority area. It monitors annual sales data for aggregate minerals between 2006 and 2015 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 area, 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 at Barton in Fabis, 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, including a Minerals Safeguarding Policy, however it does not include demand forecasts for aggregate minerals.

The recession has seen sales for all aggregate minerals fall 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 1973.

The 2015 sales data shows a small increase in sand and gravel sales and Sherwood Sandstone sales compared to the 2014 data. Limestone output 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 the figure has increased slightly and for Limestone the figures remain unchanged (see table 1).

Table 1: Sales and landbank figures 2015

	2015 sales (Million tonnes)	10 year sales average 2006-2015 (Million tonnes)	3 year sales average 2013-2015 (Million tonnes)	Permitted reserves (million tonnes)	Landbank (years)
Sand and gravel	1.52	1.89	1.45	17.96	9.5
Sherwood Sandstone	0.38	0.39	0.37	5.43	13.92
Limestone	0.00	0.02	0.00	3.34	111

Although the 10 year average sales have fallen, it is not considered that there is a need to amend the demand forecast set out in the emerging Nottinghamshire Minerals Local Plan. This is because the Minerals Local 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 a more robust average when forecasting to 2030 than the latest 10 year average that is influenced by a greater period of very 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 in 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, the 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 in Barton in Fabis, 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, including a Minerals Safeguarding Policy, however it does not 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 2015.
- 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 ongoing 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 are made of the alluvial and glacial sand and gravels. The Sherwood Sandstone is also used for non-aggregate industrial and other specialist end-uses.

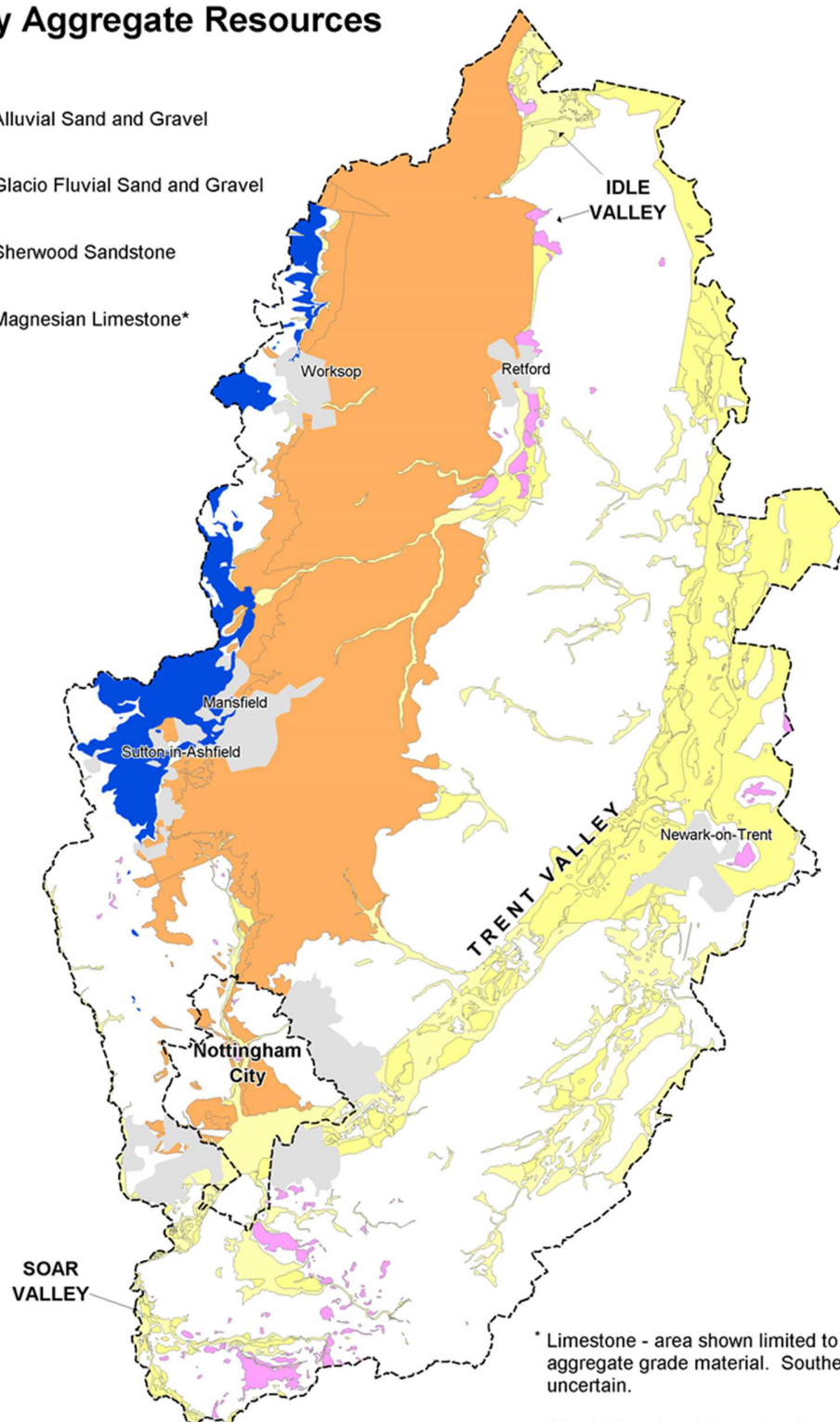
Magnesian Limestone

- 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*



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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

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

Alternative aggregates

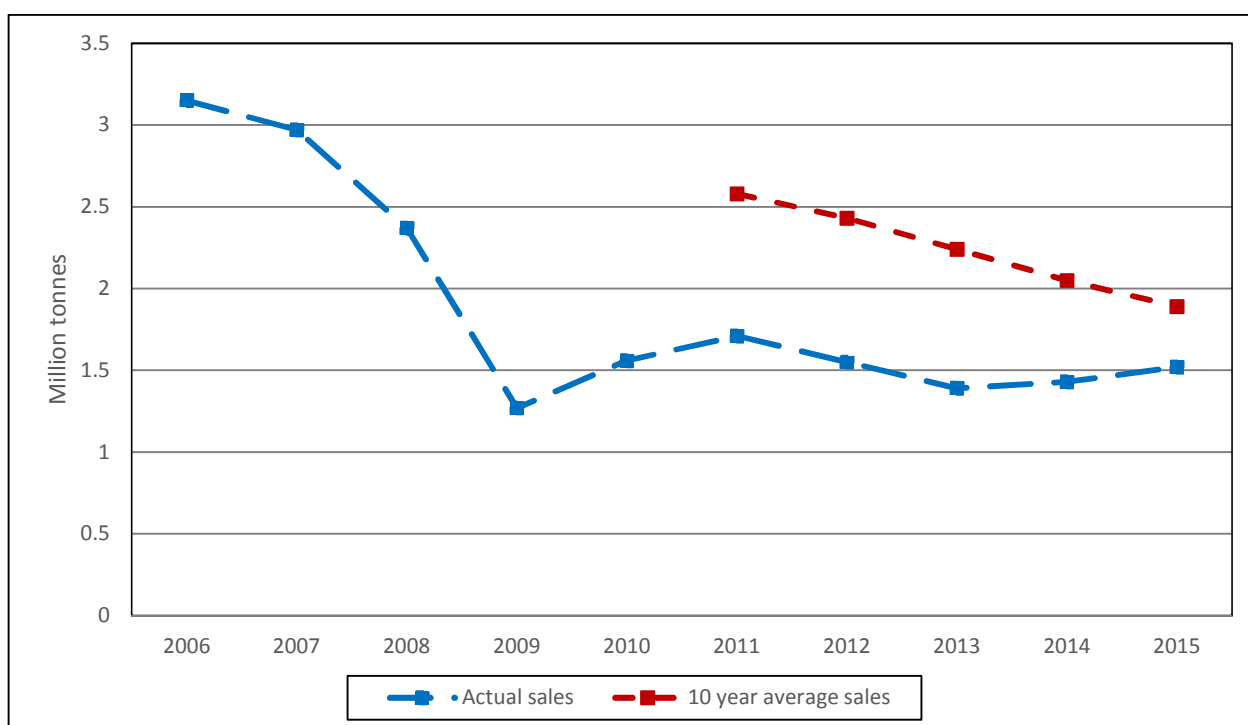
- 2.6 Alternative aggregates comprise secondary and recycled materials, although these terms are often used interchangeably. Recycled aggregates are materials that have been used previously and include some types of construction and demolition waste, asphalt road planings and used railway ballast. Secondary 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 at Finningley quarry recommencing in the County's area and increased sales before falling slightly in 2013. Small but steady increases in sales have been recorded in 2014 and 2015 (see Figure 2 below).

Figure 2: Sales of sand and gravel 2006-2015 against the 10 year average sales figure. (Figures in million tonnes)



Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Sales (Million tonnes)	3.15	2.97	2.37	1.27	1.56	1.71	1.55	1.39	1.43	1.52

Resources and landbank

- 3.2 The landbank is calculated by dividing existing permitted reserves by the level of production based on the average sales over the last 10 years. (It is worth noting that the data used to calculate the landbank figures for aggregates minerals changed in 2015 from using the adopted Minerals Local Plan apportionment figure to use the most recent 10

year sales average set out in Figure 2 above. This is in line with guidance set out in the National Planning Practice Guidance.)

- 3.3 From the above figures, it can be calculated that the average sales over the last 10 years stands at 1.89 million tonnes per annum. Therefore, as of December 2015 the landbank stood at 17.96 million tonnes, which is equivalent to 9.5 years of production. This is above the minimum 7 year landbank requirement set out in the NPPF.
- 3.4 There are twelve permitted sand and gravel quarries in Nottinghamshire, although at present only eight are in full production with a further quarry, Girton, only working existing stockpiles (see Table 2 below).

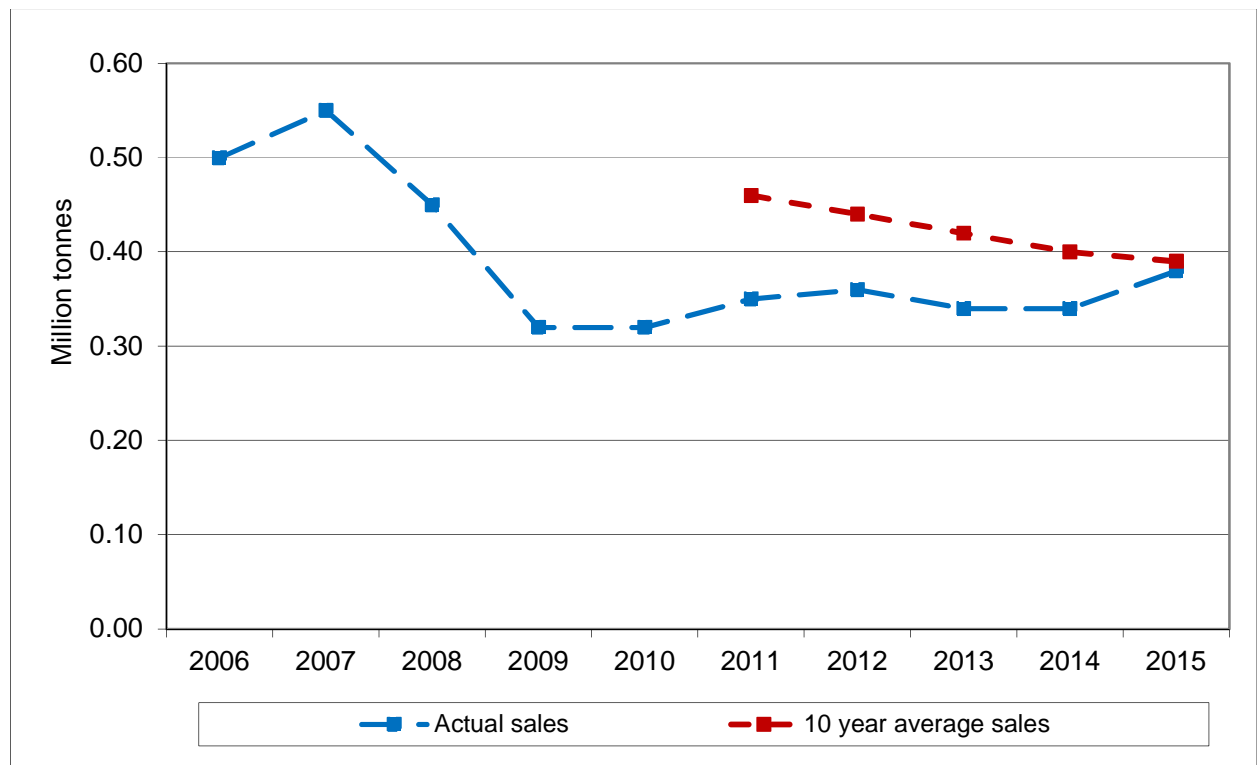
Table 2: Permitted sand and gravel quarries in Nottinghamshire

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	Tarmac	Dormant
Finningley	Tarmac	Active
Misson Bawtry Road	Rowley	Active

Sherwood Sandstone

- 3.5 Historically Sherwood Sandstone sales have been much lower than sand and gravel sales as it is generally used in different, more specialist markets. In 2006 and 2007 it remained relatively stable at around 0.5-0.6 million tonnes. Sales fell significantly from 2007, to lows of just 0.32 million tonnes in 2009 and 2010 as a result of the recession. Sales increased slightly in 2011 and then remained relatively stable until 2014. Sales in 2015 have increased slightly (see Figure 3 below).

Figure 3: Sales of Sherwood Sandstone, 2006-2015 against 10 year average sales figure. (Figures in million tonnes)



Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Sales (million tonnes)	0.50	0.55	0.45	0.32	0.32	0.35	0.36	0.34	0.34	0.38

Resources and landbank

- 3.6 There are seven permitted Sherwood Sandstone quarries although at present only four are being worked, with two dormant and one exhausted and undergoing restoration (see Table 3 below). As of December 2015 the landbank stood at 13.92 years equal to 5.43 million tonnes. This is significantly above the minimum 7 year requirement.

Table 3: Permitted Sherwood Sandstone quarries in Nottinghamshire

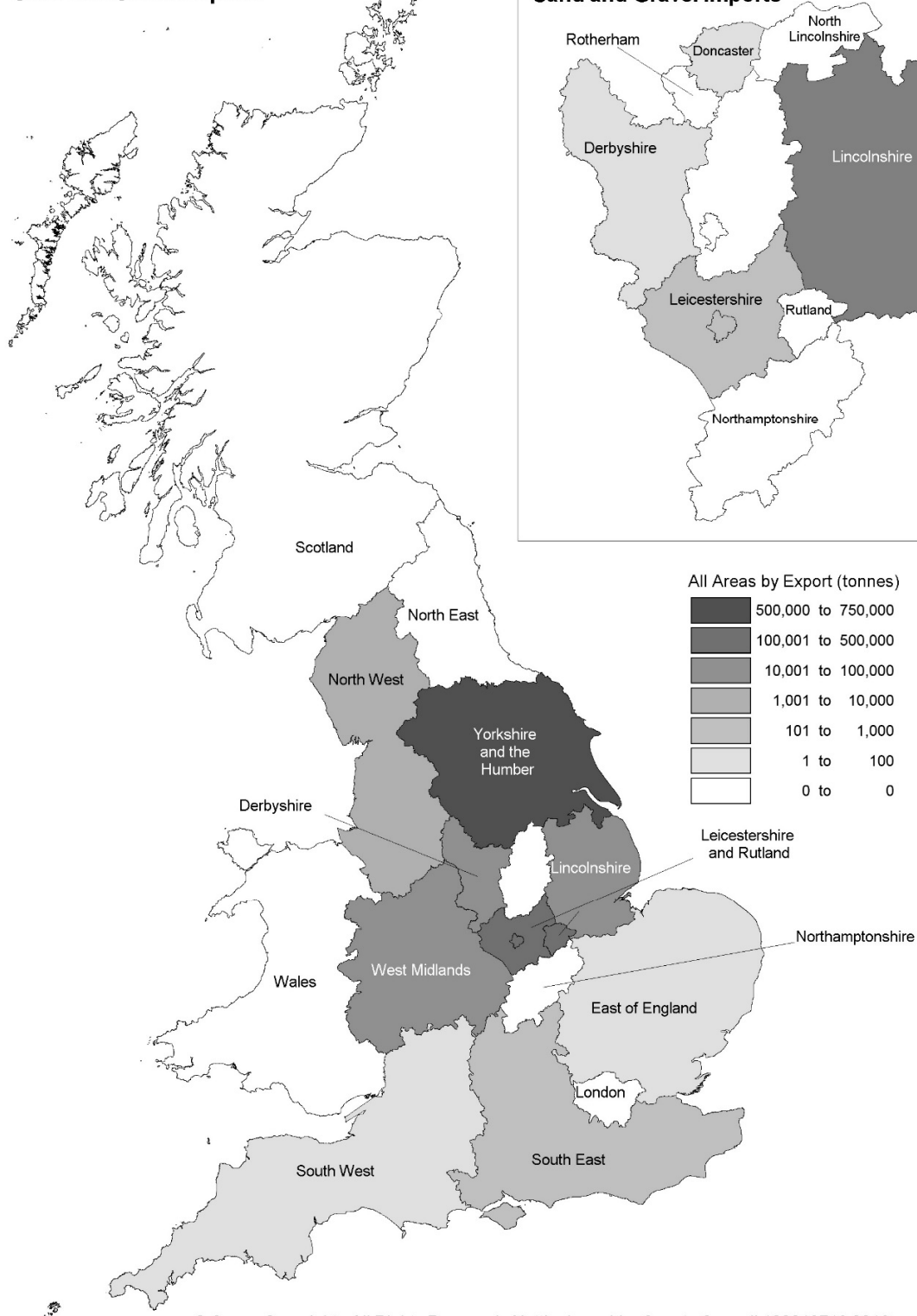
Site	Operator	Status
Burntstump	Tarmac	Active
Bestwood 2	Tarmac	Active
Carlton Forest	Tarmac	Dormant
Ratcher Hill	Mansfield Sand Company	Reserves exhausted and site being restored
Two Oaks Farm	Mansfield Sand Company	Active
Scrooby Top	Rotherham Sand & Gravel	Active
Serlby	Rotherham Sand & Gravel	Dormant

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

- 3.7 Imports and exports of aggregates are only recorded as a one year snap shot every four years as part of the full surveys undertaken by the East Midlands Aggregate Working Party (EMAWP). The most recent full survey was undertaken in 2014. 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.
- 3.8 The amount of sand and gravel and Sherwood Sandstone known to be exported from Nottinghamshire is 1.07 million tonnes, or 60% of the total amount extracted (1.77 million tonnes). However an additional 210,000 tonnes is classified as having an unknown destination. If this 210,000 tonnes is also exported the figure rises to 72%. However it should be noted that the export figure in 2009 (the last time such data was collected) was 52% so it is considered more likely that this 210,000 tonnes actually served markets within Nottinghamshire.
- 3.9 The main export markets are Rotherham and Doncaster and neighbouring authorities in the East Midlands. This is due to limited resources elsewhere and the quality of the gravel that meets the specifications for making high strength concrete. However some is transported a much greater distance. See Figure 4 below.
- 3.10 Imports of sand and gravel from elsewhere in the East Midlands were lower compared to the amount extracted from the County's own quarries. However, the amount imported still totalled approximately 530,000 tonnes. It is likely that these imports supply markets close to the county boundary.
- 3.11 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 to and from Nottinghamshire, 2014 (tonnes)

Sand and Gravel Exports

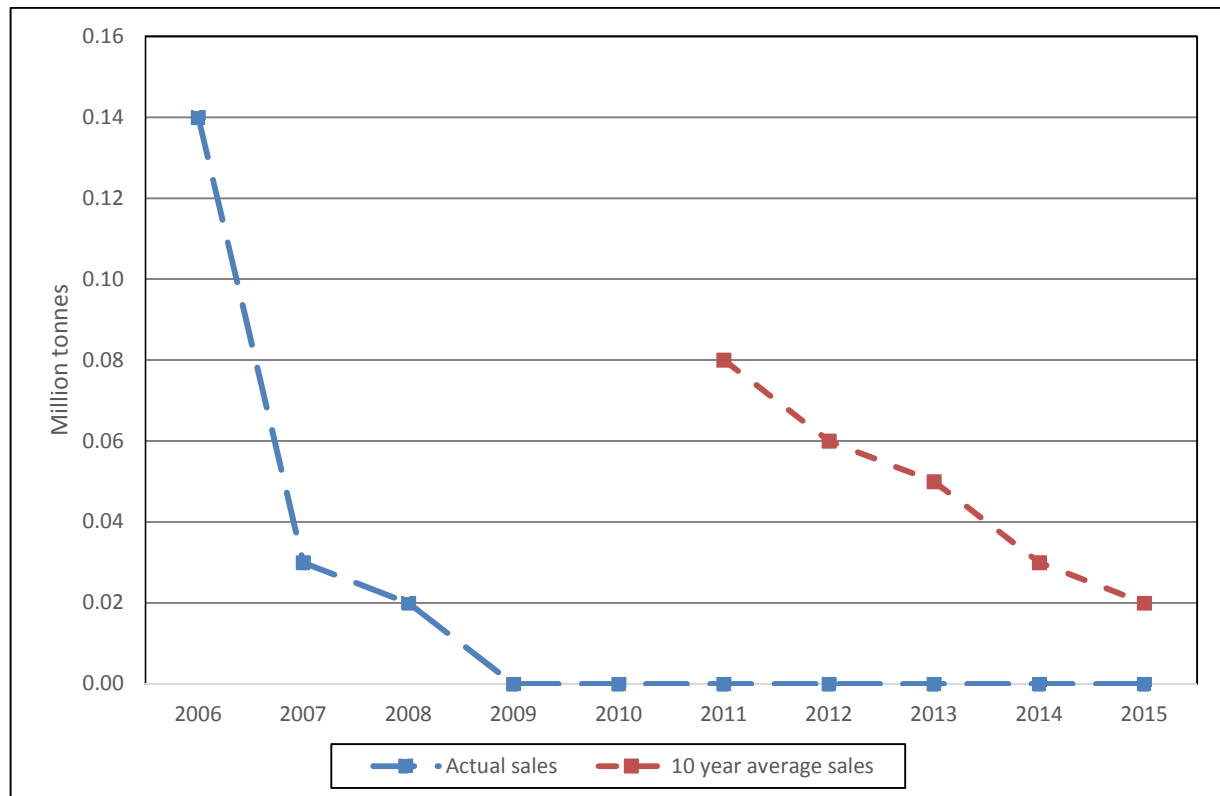


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Crushed rock (including aggregate limestone)

- 3.12 Crushed rock sales (predominately aggregate limestone) 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: Sales of aggregate limestone, 2006-2015 against 10 year average sales figure. (Figures in million tonnes)



Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Sales (million tonnes)	0.14	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00

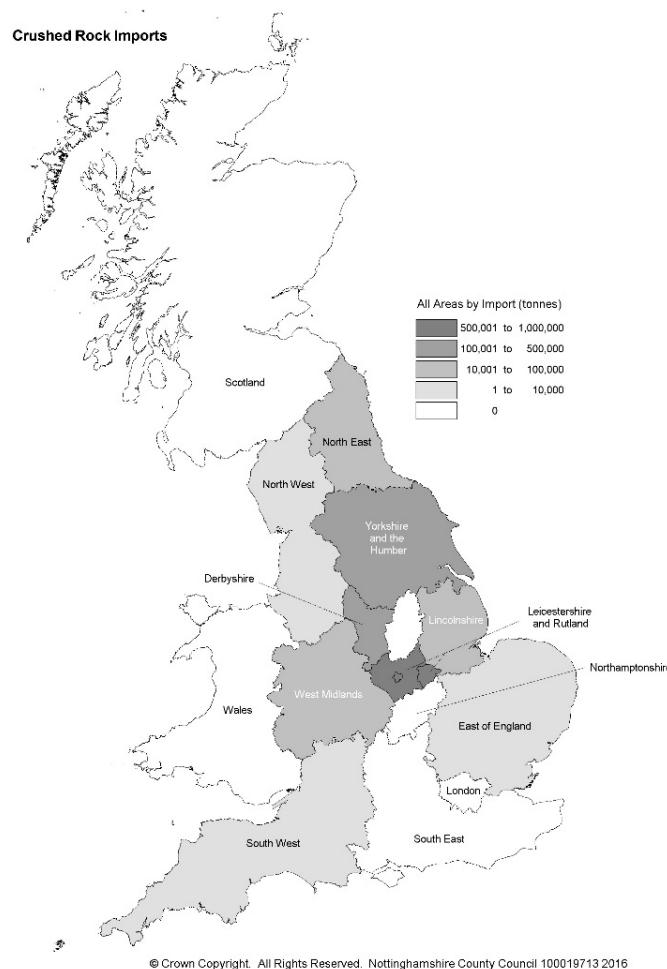
Resources and landbank

- 3.13 Nottinghamshire only has one dedicated aggregate limestone quarry (at Nether Langwith). The quarry was originally opened to supplement a much larger quarry in Derbyshire, however it has been inactive for a number of years. Some aggregate is also produced from reject stone at a building stone quarry at Lindby although this tonnage is small. Given that no significant quantity of aggregate is currently being worked, the landbank is theoretically increasing rapidly and as of December 2015 the landbank stood at 111 years, equal to 3.34 million tonnes. This is significantly above the minimum of 10 years and will continue to increase if Nether Langwith quarry remains dormant.

Imports and exports of crushed rock

- 3.14 Limestone resources in Nottinghamshire and Nottingham are relatively limited therefore the majority of crushed rock used is imported. The 2014 Annual Minerals Survey states that 1.26 million tonnes of crushed rock were imported into Nottinghamshire, whilst no mineral was exported.
- 3.15 The 2009 AM survey identified Derbyshire (including the Peak District National Park Authority) and Leicestershire as the main sources of crushed rock. The 2014 Aggregates Minerals Survey includes more detailed information which identifies Leicestershire, Derbyshire (including the Peak District National Park Authority) and Yorkshire and Humberside (predominately Doncaster Metropolitan Borough Council) as the main sources of crushed rock.
- 3.16 The Leicestershire LAA states that adequate reserves are available to meet expected future demand over the plan period. The Derbyshire LAA also states that adequate reserves remain available to meet expected future demand from outside Derbyshire. This takes into account the reduction in output from the Peak District National Park. The Doncaster and Rotherham LAA identifies a 33 year landbank for crushed rock based on 2015 figures.

Figure 6: crushed rock imports into Nottinghamshire, 2009 (tonnes)



Alternative aggregates

- 3.17 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 a high of 71 million tonnes in 2007 (25% of total aggregates sales). Sales of recycled aggregates rise and fall in line with sales of primary aggregate / economic trends and in 2015 stood at 63 million tonnes (29% of total aggregates sales)¹ due to the wider fall in aggregate production as a result of the recession. It is estimated that alternative aggregates use is around three times higher than the European average.
- 3.18 The British Geological Survey and Minerals Products Association acknowledge that further significant growth is likely to be limited due to the high levels that are already being recycled along with changing construction methods which are also likely to reduce the availability and quality of these materials in the future.
- 3.19 Local data for alternative aggregates is very limited however the main types of alternative aggregates in Nottinghamshire are set out below:

Power station ash

- 3.20 Fly ash and furnace bottom ash (FBA) 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 year². 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 FBA 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 date³.

Construction and demolition waste

- 3.21 Construction and demolition waste is made up of a range of materials including rubble, metals, glass, plastic and other construction materials.
- 3.22 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.
- 3.23 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.

¹ Minerals Products Association – The Mineral Products Industry at a Glance 2016

² East Midlands Aggregate Working Party - Annual Survey and Report 2014

³ UK Quality Ash Association

- 3.24 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

- 3.25 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.
- 3.26 Further information is included in the background paper on alternative aggregates and also in the Nottingham and Nottinghamshire Waste Core Strategy documents.

Future Aggregate Provision

- 4.1 In order to provide a steady and adequate supply of aggregates over the plan period, the NPPF states that a 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, the 10 year average figure stands at 1.89 million tonnes. This figure has steadily fallen since the first figures were collated (in the 2013 LAA) and reflects the greater influence of the low level of economic output over the 10 year period. The three year average figure has also steadily fallen since the first LAA was produced however the most recent data shows a much smaller fall and stands at 1.45 million tonnes. Table 4 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)	2017 LAA (2006-2015)
10 year average sales (million tonnes)	2.58	2.43	2.24	2.05	1.89
	(2009-2011)	(2010-2012)	(2011-2013)	(2012-2014)	(2013-2015)
3 year average sales (million tonnes)	1.51	1.61	1.55	1.46	1.45

Resource depletion in the Idle Valley and the north of the county

- 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 around 800,000 tonnes in 2015. 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 all of 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 have been in steady decline. The most recent 10 year average figure reflects the long term decline and the greater influence of the low level of economic output and stands at 0.39 million tonnes. The 3 year average figure has remained relatively stable, however the most recent figure has seen a small increase to 0.37 million tonnes. Table 5 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)	2017 LAA (2006-2015)
10 year average sales (million tonnes)	0.46	0.44	0.42	0.40	0.39
	(2009-2011)	(2010-2012)	(2011-2013)	(2012-2014)	(2013-2015)
3 year average sales (million tonnes)	0.33	0.34	0.35	0.35	0.37

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

Limestone provision

- 4.15 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.
- 4.16 The most recent 10 year average figure is 0.02 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 6).

Table 6: Limestone average sales figures

	2013 LAA (2002-2011)	2014 LAA (2003-2012)	2015 LAA (2004-2013)	2016 LAA (2005-2014)	2017 LAA (2006-2015)
10 year average sales (million tonnes)	0.08	0.06	0.05	0.03	0.02
	(2009-2011)	(2010-2012)	(2011-2013)	(2012-2014)	(2013-2015)
3 year average sales (million tonnes)	0.00	0.00	0.00	0.00	0.00

Future provision

- 4.17 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.
- 4.18 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 2016 National Infrastructure Plan identifies the Midland Mainline electrification programme (expected around 2019) and improvements to the A1/A46 junction near Newark. An exact date for the A46/A1 improvements 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 in Nottinghamshire.
- 5.2 It is likely that the schemes above will 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 Minerals Raised Inquiry survey

- 5.3 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.
- 5.4 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.

East Midlands Aggregate Working Party – Annual Monitoring Report 2015

- 5.5 The EMAWP Annual Monitoring Report collates data relating to aggregates sales for each Minerals Planning Authority in the East Midlands. (The sales data for Nottinghamshire has been used in this report). In summary sand and gravel sales have increased by 5.9% when compared to 2014 figures. At the start of the monitoring period in 2006 sand and gravel sales in the East Midlands stood at 9.9 million tonnes before falling to a low of 5.5 million tonnes in 2009 as a result of the recession. Since 2009 sales have steadily increased standing at 7 million tonnes in 2015.

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%⁴. 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%. Development associated with this growth is 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.

⁴ Based on Office for National Statistics (2012-based) population projections

*The adopted Core Strategies have a staggered projector

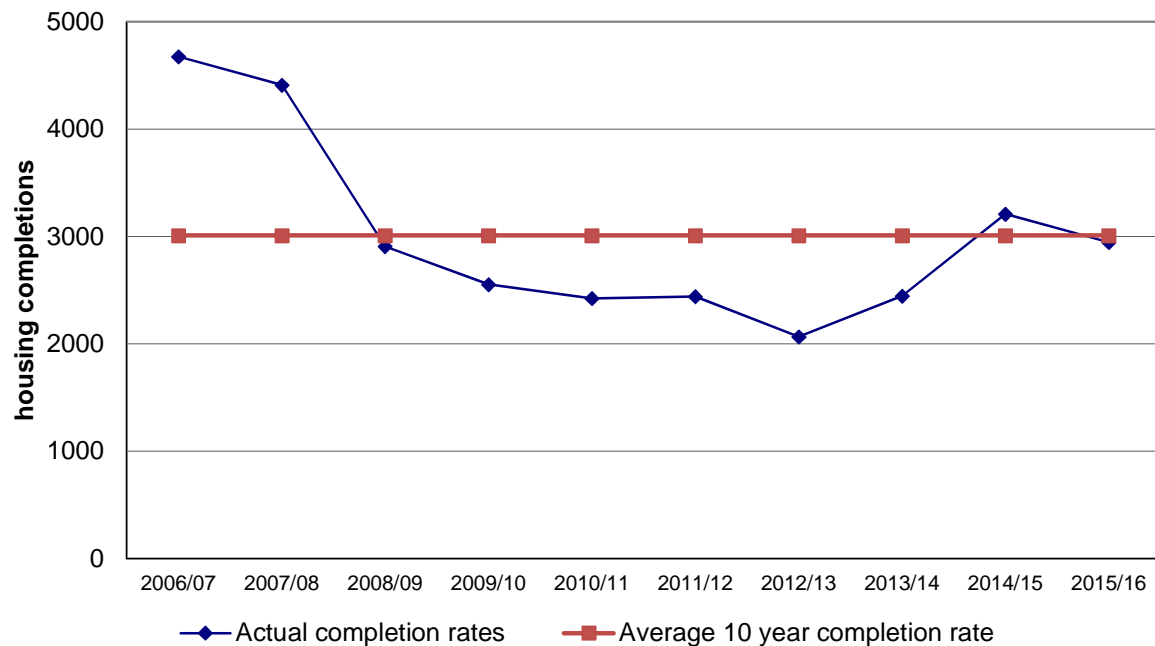
House building

- 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 4,494 dwellings per annum (see table 7). Average completions over the last ten year period have been 3,008. Completions peaked at 4,674 in 2006/2007 (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	Average Annual Requirement
Ashfield District Council Ashfield Local Plan Publication Local Plan, September 2016	7,683 dwellings (2016 to 2032)	452 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		4,494 dwellings

Figure 7: Housing completions in Nottinghamshire



- 5.9 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 The draft Rotherham and Doncaster Local Aggregates Assessment 2016 states that whilst its sand and gravel landbank stands at 16.8 years (4.2 million tonnes), there are limited reserves of sharp sand remaining in the area and that current permitted reserves may not be adequate to cover the plan period to 2028. Therefore, whilst the draft 2016 Rotherham and Doncaster LAA states that the sand and gravel shortfall over the plan period is estimated to be only 50,000 tonnes this is based on the continued importation of sand and gravel from Nottinghamshire and elsewhere.
- 5.11 Given that Nottinghamshire has traditionally supplied a large proportion of sand and gravel to the Rotherham and Doncaster markets from the Idle Valley and North Nottinghamshire, their future requirements are unlikely to be completely new demand and this has been taken into account as part of the 10 year average sales figures. It is likely that in the short term, output from the Idle Valley and north Nottinghamshire will be maintained at current levels from existing permitted reserves.
- 5.12 A planning permission at Sturton Le Steeple with an estimated output of 500,000 tonnes per annum has been implemented and is likely to be partially worked in early 2017 before being mothballed. If this quarry was fully operational it would provide a valuable long term source of sand and gravel to supply North Nottinghamshire and the Rotherham and

Doncaster markets for approximately 20 years. In addition to the existing permitted reserves, the Submission Draft document of the replacement Minerals Local Plan identifies a number of proposed allocations in the Idle Valley.

- 5.13 Longer term, output from the Idle Valley is likely to fall as the remaining reserves are used up and this 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 for South Yorkshire markets, however at this stage it is difficult to predict the extent of this.
- 5.14 Paragraph 73 of the draft Rotherham and Doncaster 2016 LAA also notes that in 2014 half the crushed rock sales in the Boroughs were used for concreting aggregate, identifying a potential transition away from sharp sand to crushed rock for concreting products. If this is the case this could reduce the future demand for sharp sand for concreting purposes.
- 5.15 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 this element of the plan will be necessary.
- 5.16 A joint minerals position statement has been agreed between Nottinghamshire County Council, Rotherham MBC 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 As a result of the recession, sales of aggregate minerals fell significantly between 2007 and 2009. In Nottinghamshire this can be seen most dramatically with sand and gravel sales in 2009 which fell to their lowest level since records began. However since 2009 sales have slowly increased.
- 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 economic conditions and the increasing trend of replacing sharp sand with crushed rock in concreting products. However it is likely that sand and gravel will either be sourced from quarries around Newark or from other markets outside of Nottinghamshire that maybe closer.
- 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 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, 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. The 3 year sales average for sand and gravel has remained broadly stable, whilst the 3 year sales average for Sherwood Sandstone has increased slightly. The 3 year average for limestone has remained unchanged.

- 6.8 The Minerals Local 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 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 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.