WARWICKSHIRE DRAFT LOCAL AGGREGATE ASSESSMENT 2016

(An assessment of aggregate demand and supply in Warwickshire)

Warwickshire County Council

October 2016

WARWICKSHIRE LOCAL AGGREGATE ASSESSMENT

Contents

List of Figures

List of Tables

EXECUTIVE SUMMARY

The Local Aggregate Assessment is an annual assessment of the demand for and supply of aggregates in a mineral planning authority's area to determine an authority's required level of aggregate provision; the requirement to produce an LAA comes through the National Planning Policy Framework. The figures in this document summarise the aggregates situation in the county up till January 2016 but the executive summary also takes in to consideration a recent planning permission granted in June 2016.

Primary Aggregates in the county comprise sand and gravel and crushed rock. Sand and gravel sales, whilst generally in decline over recent years have risen very slightly from 2014 but this was still an extremely low figure for sales at 0.322 million tonnes in 2015.

Permitted reserves have fallen due to some increase in production and a recalculation of the reserve at High Cross Quarry downwards following information provided by the agent for the owner of the site. Thus the landbank in 2015 was 6.75 million tonnes.

However, the reserves will have been replenished somewhat due to a recent planning approval in 2016 for an extension at Brinklow Quarry. This will raise the landbank to approximately 8.02 years plus a further proportion in reserve outside the plan period.

The longer term trends in sales have all been directed downwards. This has also pushed the LAA requirement substantially lower.

Sand and Gravel

Currently, there are only 2 active sand and gravel sites in the county although 8 new sites are currently being pursued through the Minerals Plan. It is envisaged that some or all of the sites will adequately fulfil the LAA requirement figure.

	2015 LAA (2013 Figures)	2016 LAA (2015 Figures)	Compared to previous LAA
Sales	0.209mtpa	0.322 mtpa	▲ 0.113
P Reserves	4.44mt	3.869 mt	▼ 0.571
Landbank	7 years	6.75 years	▼ 0.25
10 Year Average	0.688mt	0.573 mt	▼ 0.115
3 Year Average	0.343mt	0.270 mt	▼ 0.073
Plan Requirement*	10.32mt	8.595 mt	▼ 1.725

Crushed Rock

There is only one active crushed rock quarry in the county at Mancetter in North Warwickshire. Due to business confidentiality reasons, no sales figures can be reported individually for crushed rock this year. The reserve figure and the landbank have increased due to the approval of an Extension at Mancetter Quarry in 2015.

	2015 (2013 Figures)	2016
Sales	***	***
Reserves	25.68	27.26
Landbank	29.18	30.97
10 Year Average	***	***
3 Year Average	***	***
LAA Requirement	***	***

Recycled Aggregates

Companies that produce recycled aggregates are contacted each year as part of the West Midlands AWP Survey. There are 9 recycled aggregate sites in the county but one site at Dunton Landfill is by far the most important and recycles at least half of the county's material. Permitted capacity stands at approximately 830,250 tonnes per annum but several of these sites have only temporary permissions. Although there weren't a full set of returns this year following our annual monitoring survey, the actual production figure tends not to change dramatically year on year and is estimated at around 600,000 tonnes per annum.

1.0 INTRODUCTION

Sand and gravel and crushed rock are the major primary aggregates which have supplied the construction industry in the county and the West Midlands region for many years and have also helped to support manufacturing, infrastructure, house building and sustainable economic growth.

Historically, there has always been a requirement to plan for steady and adequate supply of aggregates. The National Planning Policy Framework (NPPF) published in March 2012 introduced a requirement to produce Local Aggregate Assessments (LAAs). The NPPF spells out the requirements as to what should be included in an LAA. Para 145 of the NPPF states that the LAA should be based on a 10 year rolling average of sales data and other relevant local information and an assessment of all supply options (including marine dredged and recycled sources).

The NPPF also states that advice should be sought and taken from the Aggregate Working Party[1] (which is a technical advisory body) when preparing an LAA and account should also be taken of the National and Sub-National Guidelines which should be used when planning for the future demand for a supply of aggregates[2]. The draft version of this report is regularly taken to the West Midlands Aggregate Working Party (WMAWP) for comment from the bodies on the working group which comprises mineral planning authorities, industry representatives and statutory undertakers such as the Environment Agency. The members of the Aggregate Working Party are set out in Appendix 1.

In addition to the NPPF, this LAA been produced with reference to the following documents:

- Guidance on the Managed Aggregate Supply System (DCLG – 2012)
- Planning Practice Guidance –Minerals (DCLG- 2014)

2.0 BACKGROUND TO THE LAA AND THE WARWICKSHIRE MINERALS PLAN

Work on the Minerals Plan restarted following the successful adoption of the Waste Core Strategy[3] in July 2013. Previously, the emerging Minerals Plan had progressed as far as the Revised Spatial Options consultation in 2009. The draft preferred spatial option and policy principles along with the background evidence were further developed and were taken forward to the production of a Preferred Option Document with Development Management Policies in October 2015. The LAA underpins the Minerals Plan by setting out the parameters of how much aggregate will be required

[1] West Midlands Regional Aggregate Working Party until 2012 (now re-named the West Midlands Aggregate Working Party from 2012 onwards)
[2] The latest guidelines are the National and Regional Guidelines for Aggregate Provision in England 2005-2020 published in June 2009 (CLG). These will replace the current working Guidelines 2001-2016. The latest national figures when apportioned at a sub-regional level were not agreed by all members of the Aggregate Working Party.
[3] Warwickshire Waste Core Strategy was adopted on 7th July 2013

to plan for, over the plan period. This will impact on how many sites might be required for aggregate extraction in the county until 2032.

Prior to starting work on the new minerals plan, the saved policies of the previous Minerals Plan for Warwickshire adopted in 1995 have been in place. Only a handful of the 9 allocated Preferred Areas and the 11 Areas of Search in the plan were ever fully implemented. Consequently, Warwickshire County Council undertook a "Request for Sites" for sand and gravel only, in 2014 which sought to identify sites that are considered deliverable and can be taken forward as site allocations in the new Warwickshire Minerals Plan.

3.0 SOURCES OF AGGREGATES IN WARWICKSHIRE

3.1 Sand and Gravel

Sand and gravel extracted from the Quaternary deposits have been extensively exploited and traditionally have provided an important source of aggregate for asphalt and concrete. Extraction has focussed on the river terrace deposits along the Tame and Avon along with some pre-glacial deposits around Warwick and Coventry. Glaciofluvial sand and gravel deposits also represent a valuable resource, particularly in the east of the county around Rugby and in the north west of the county around Coleshill.

Where sand and gravel is situated in the county there are generally few physical constraints. The Cotswold Area of Outstanding Natural Beauty is situated in the very south of the county, whereas the sand and gravel resource is situated to the north of this area. Although much of the western side of the county is in the Green Belt, minerals are not an inappropriate use in the Green Belt provided minerals operations preserve the openness of the Green Belt and do not conflict with the purposes of including land in Green Belt. Therefore, apart from local constraints such as ecological and archaeological for instance, there are no major physical constraints to stop future sites coming forward.

In the past the pattern of sites in the county reflected this description; see Fig. 1 below and corresponding site information contained in Table 1.

Figure 1: Sand and Gravel - Geology and Sites in Warwickshire 2015

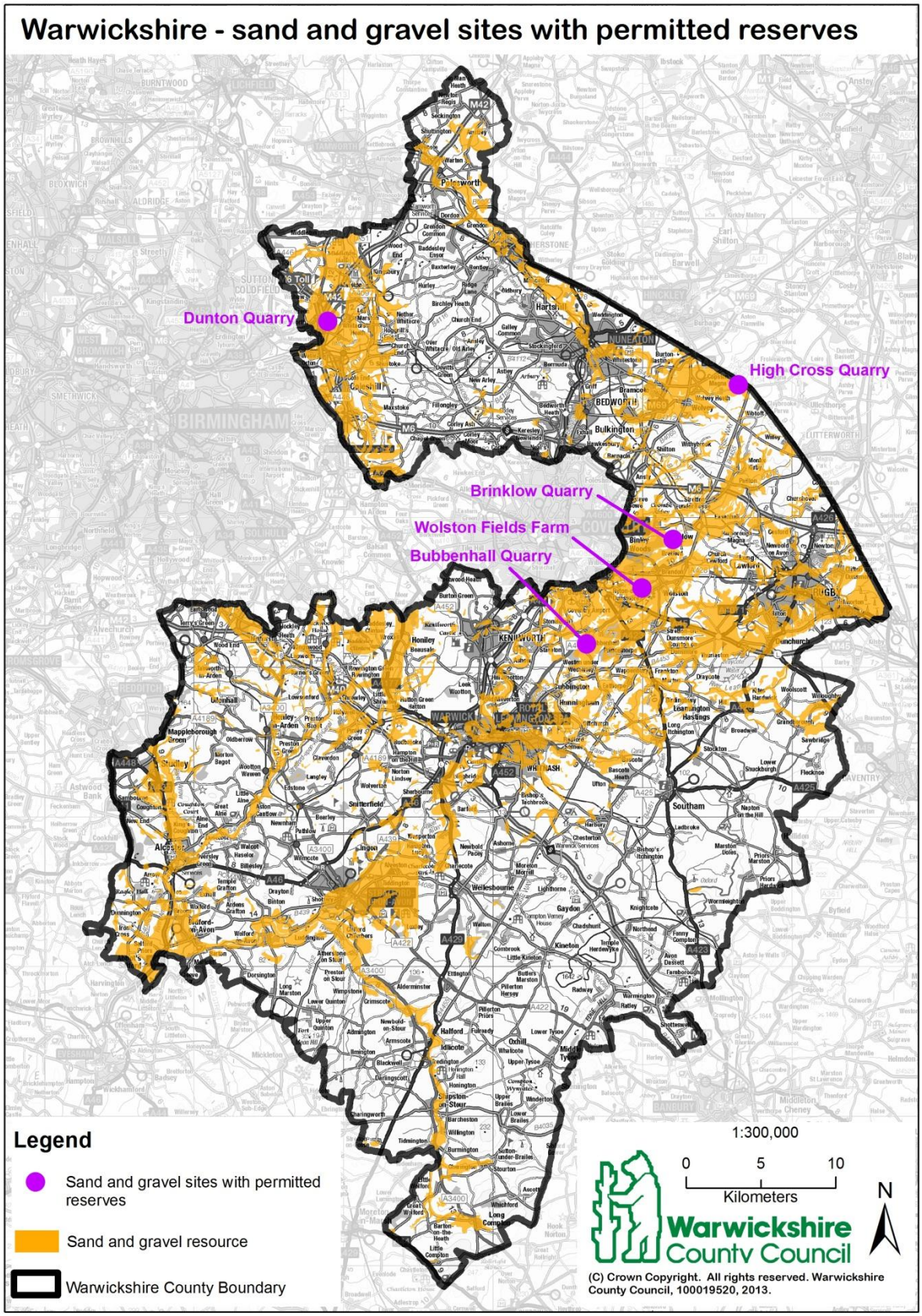


Table 1 Sand and Gravel sites in Warwickshire with permitted reserves in 2015

Site	Operator	Active?	Comments
Brinklow Quarry	Aston Family	Yes	Ongoing production – recent large extension granted in 2016*
Bubbenhall Quarry	Hansons/ Smith's Concrete	Yes	Minimal reserves left – site now used to process material from Wolston Fields Quarry.
Wolston Fields Quarry	Hansons /Smith's Concrete	No	Approved in 2013 – Work started on site in 2014.
High Cross Quarry	KSD	No	Inactive site but has reasonable reserves
Dunton Landfill	KSD	Yes for landfill not mineral extraction	Small reserve maintained – main focus on aggregates recycling.

*Figures not included in this LAA

In recent years several sites have stopped production at around the same time leaving only two sites currently producing any sand and gravel in the county at Brinklow, east of Coventry and at Wolston Fields (in 2013[4]) which uses the existing plant at Bubbenhall to process the excavated material. There are some scattered permitted reserves including a significant reserve at High Cross Quarry in the north east of the county, but this is not currently active. Quarries at Coleshill (2007), Middleton Hall (2011) Marsh Farm (2012), Bubbenhall (2013) and Ling Hall (2012) have all ceased production in recent years and not been replaced with new sites. This has led to declining sales over recent years. However, Brinklow Quarry has recently, been granted a large extension of 3.4 million tonnes in June 2016 subject to a Section 106 Agreement.

The county's sand and gravel landbank is worked out by dividing the county's total permitted reserve by its annual apportionment. The apportionment used to be calculated by subdividing the national guideline figures through the sub-national Aggregate Working Parties for each Mineral Planning Authority. The most recent guidelines established a figure of 1.043 million tonnes for Warwickshire until 2016[5]. More recent guidelines have been produced but these were not agreed by the West Midlands AWP. Since then, the LAA has replaced the Sub-regional apportionment with a 10 year's sales average. For the purposes of all future surveys the apportionment is now considered to be the 10 year average and the landbank will in

[4] Wolston Fields Farm, Wolston Lane, Wolston, Warwickshire Application no RBC/12CM018 Approved 06-Feb-2014

[5] National and Regional Guidelines for Aggregates Provision in England: 2001 – 2016 (ODPM 2003)

future be calculated by dividing the county's permitted reserve by the ten year average figure. Based on this calculation the current landbank in 2016 is estimated to be 6.75 years (3.869 mt reserves ÷ 0.573 mt annual production).

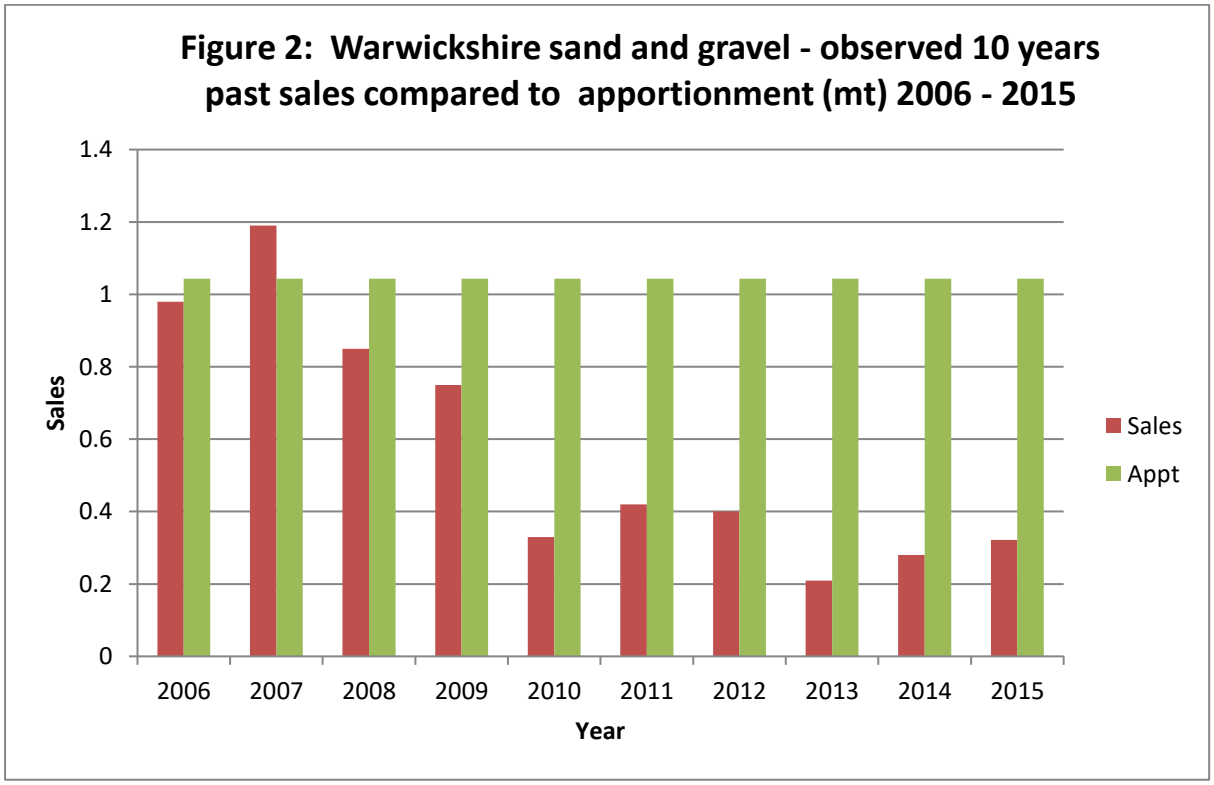
Table 2 and Figure 2 show very clearly that sales of sand and gravel have only once met the old sub regional apportionment in the previous ten year period up to 2012. For the reasons set out above the decline in production has been severe over the last 10 years.

Table 2: Warwickshire Sand and Gravel Sales 2006-2015 (million tonnes)

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Current Ave
Sales	0.98	1.19	0.85	0.75	0.33	0.42	0.40	0.209	0.280	0.322	5.731
Appt / 10 yr average	1.043	1.043	1.043	1.043	1.043	1.043	1.043	1.043	0.688	0.573	0.573
Appt +/-	-0.06	+0.15	-0.19	-0.29	-0.71	-0.62	-0.64	-0.83	n/a	n/a	n/a

Source – Regional Aggregate Working Party Reports

Fig 2 - Sand and Gravel – Observed 10 years Past sales compared to apportionment (2006-2015)



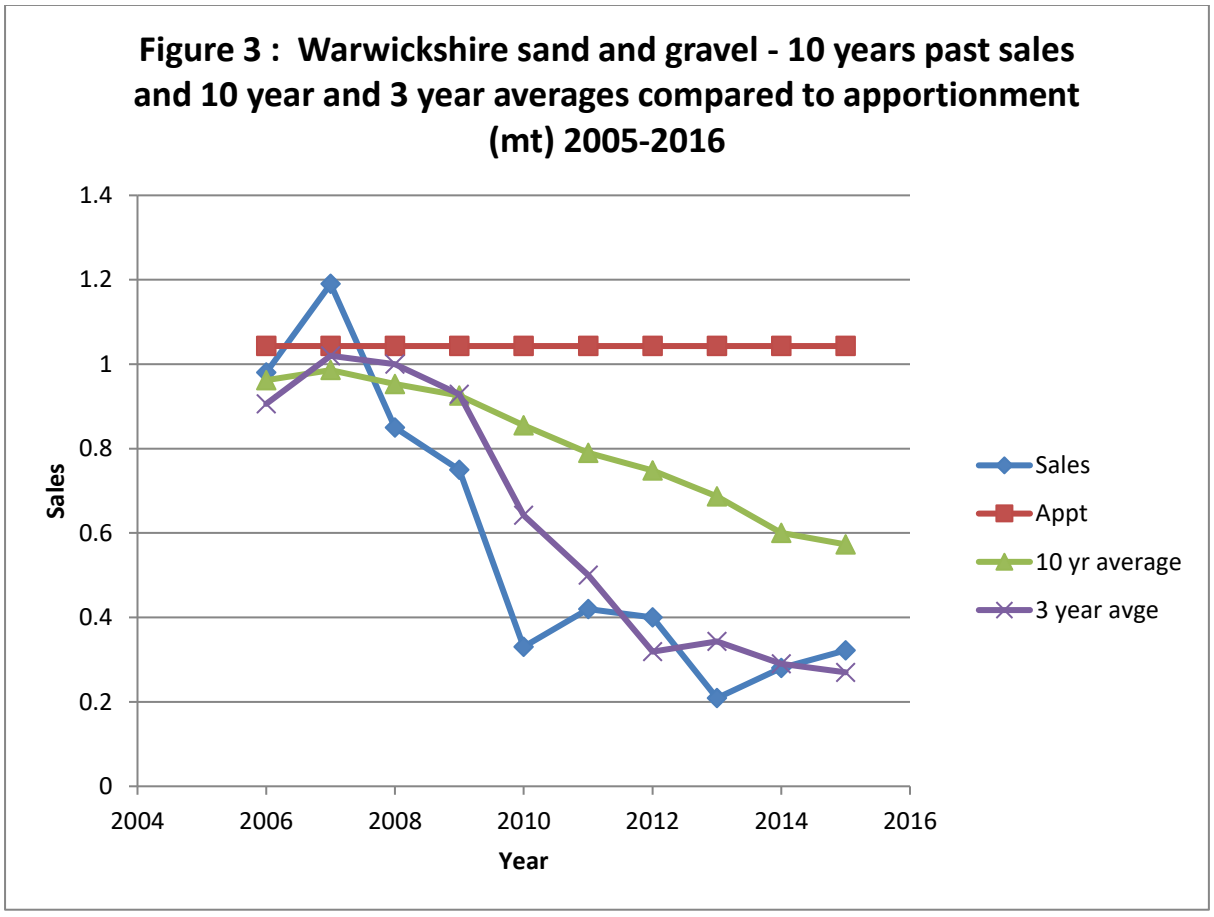
Planning Practice Guidance for Minerals also states that MPA's should also look at average sales over the last three years in particular to identify the general trend of demand as part of the consideration of whether it might be appropriate to increase supply[6]. The graph in Figure 2 does show the recent trend very well but for the purpose of completeness the table showing the three year figures is set out below in Table 3. It is difficult to justify any increase in the 10 year average figure based on the most recent 3 year trend.

Table 3: Warwickshire Sand and Gravel Sales 2013 – 2015 (million tonnes)

Year	2013	2014	2015	Ave
Sales	0.209	0.28	0.322	0.270

All the sand and gravel sales figures and averages are shown in Figure 3 on the same graph. It demonstrates that even if production increases dramatically it may be hard to meet the ten year average (LAA figure) in the short term.

Fig 3 - Sand and Gravel – Observed 10 years past sales and 10 year and 3 year averages compared to apportionment (2006-2015)



[6] Planning Practice Guidance for Minerals 2014 - Local Aggregate Assessments

The 3 years past sales average is in indicator in trends in demand, if that demand has been falling rapidly over the last 10 years but has now levelled out. However, the baseline is now so low that it is likely to drag the 10 year average down further, until the industry come forward with more planning applications.

There are sites in the pipeline but the permitted reserves figure has stayed reasonably constant over the last few years see Table 4. The landbank has increased because we are now working to the 10 year average figure as a target in the LAA.

Table 4: Sand and Gravel permitted reserves and landbank in Warwickshire 2006-2015

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Reserves	6.20	5.00	4.76	3.95	3.12	4.51	4.33	4.96	4.44	3.689
Landbank	5.9	4.8	4.56	3.78	2.99	4.33	4.15	7.2	7.0	6.75

Source – Regional Aggregate Working Party Reports

The shortage of new sites coming forward in recent years may have been due to a number of factors including the low number of new construction projects over the period of the recession since 2008, the consolidation of the aggregates industry where there are now a very few large global companies with less incentive to keep a large number of sites open at the same time and finally, the slow Local Plan process has created uncertainty and possibly slowed down investment in the aggregates sector. Another factor could be that the quality of much of the resource in Warwickshire is not considered good enough to be commercially viable by the large mineral operators in some cases.

Warwickshire County Council carried out another “Request for Sites” in 2014 (only for sand and gravel) as part of the Minerals Plan process. The findings of the LAA have determined how many new sand and gravel sites are needed in Warwickshire over the plan period. This is reflected in the most recent version of the Minerals Plan which is now at Publication Stage. It is hoped that if there is more certainty about sites, with new sites being allocated in the plan that more sites might come forward to planning application stage.

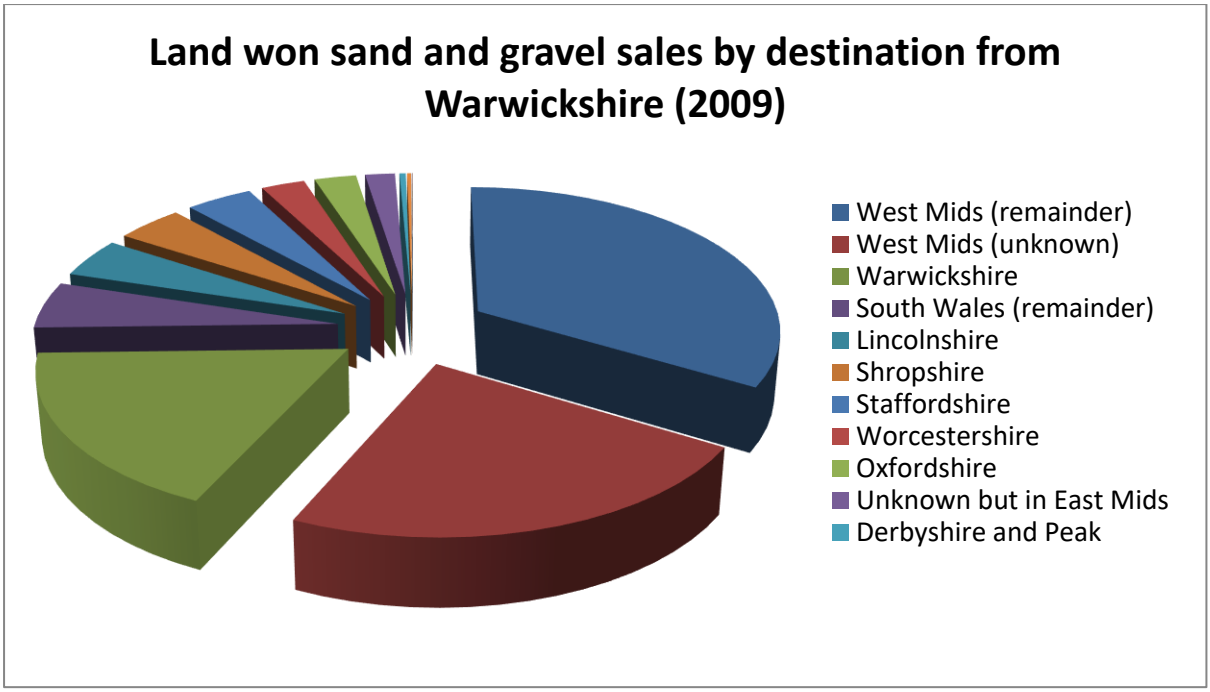
3. 11 Sand and Gravel Exports (Sales)

The results of the last Collation of the Aggregate Minerals Survey carried out through the British Geological Survey[7] in 2009 shows that only 134,000 tonnes (18%) of sand and gravel sold in Warwickshire was consumed in the county, whereas

[7] Collation of the results of the 2009 aggregate minerals survey for England and Wales (Communities and Local Government, British Geological Survey -National Environment Research Council and the Welsh Assembly Government).

509,000 tonnes (68%) was used in the West Midlands and 69,000 tonnes (9%) was used elsewhere outside the West Midlands region. The destinations and indicative breakdown of sales are provided in Fig. 4 below. A more recent detailed survey (for the year 2014) will hopefully be published in 2017.

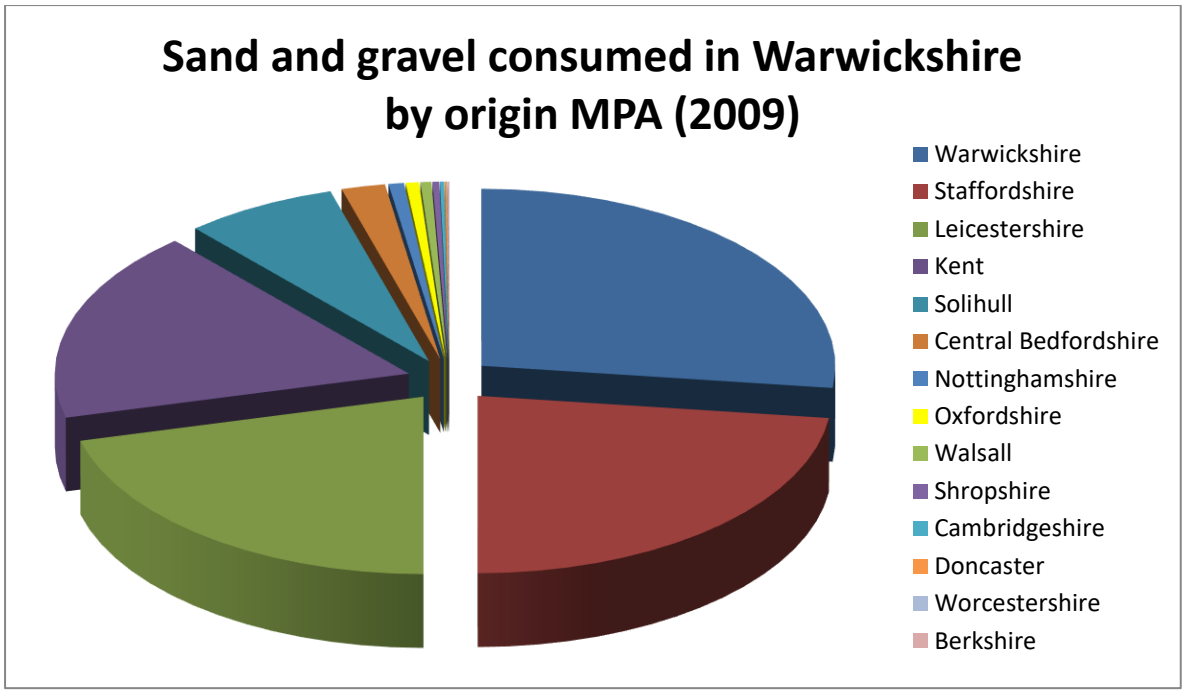
Figure 4: Sand and Gravel Sales by destination from Warwickshire 2009



3.12 Sand and Gravel Imports

In terms of imports, Warwickshire imported 359,000 tonnes of sand and gravel in 2009. Results of the Collation of the Aggregate Minerals 2009 BGS Survey show that of the total sand and gravel consumed within the county, 27% was supplied by Warwickshire itself. Other major exporters into Warwickshire include Staffordshire and Leicestershire which each supplied between 20-25% and Kent which supplied 15-20%. Solihull also supplied between 5-10%. Very small amounts (1% or below) were supplied form Nottinghamshire, Oxfordshire, Walsall, Shropshire, Cambridgeshire, Doncaster, Worcestershire and Berkshire. The origin MPAs and indicative breakdown of imports are provided in Fig. 5 below

Figure 5: Sand and Gravel Imports consumed in Warwickshire 2009



Given that the survey showed that Warwickshire produced 750,000 tonnes and imported 359,000 tonnes in 2009 then the county has generally been a net exporter of sand and gravel.

However, the figures above show that sand and gravel production in the county has fallen so low in the last few years to 2016 that this situation will almost certainly have changed and it would appear that Warwickshire could now be a net importer of sand and gravel. However, we shall have to wait until the more detailed 2014 Aggregates Survey is published in 2016 to confirm this. Whilst the official figures have not been published as yet, the draft figures are available and they reveal that Warwickshire's only sand and gravel exports were to other authorities in the West Midlands and none went outside the region at all.

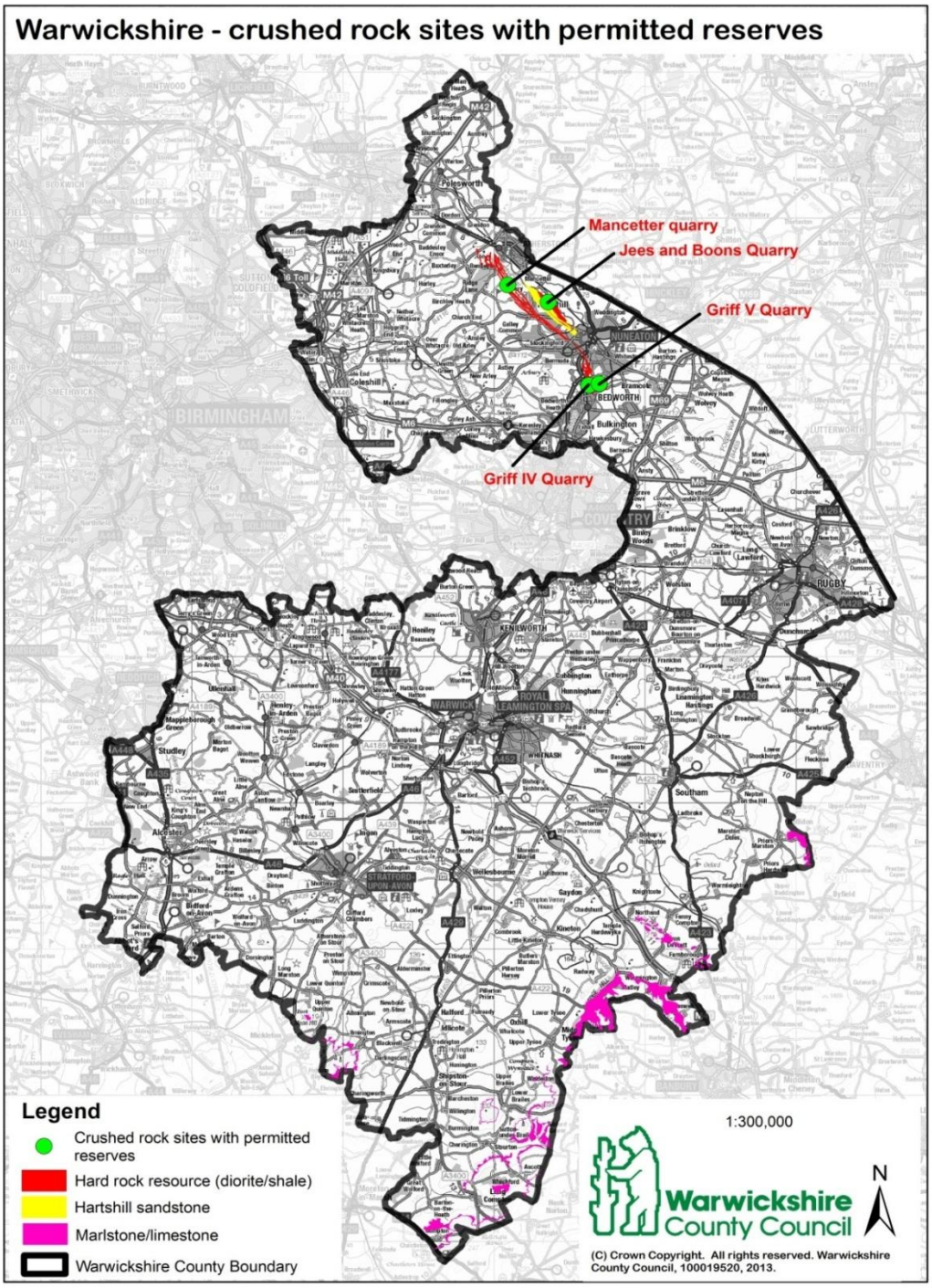
3.2 Crushed Rock

There is a regionally important resource of hard rock which is restricted to the outcrop known as the Nuneaton Inlier, containing some Precambrian to Ordovician age rocks. They form a narrow outcrop of hard rock which extends from Bedworth to Nuneaton and Atherstone[8] and these provide one of the few sources of high strength hard rock, known as Diorite, for crushed rock aggregates in central England. These rocks have a high polished stone value (PSV) content and are used mainly for roadstone and rail ballast.

[8] Warwickshire Strategic Stone Study – A Building Stone Atlas of Warwickshire published 2011 (English Heritage)

There is now only one active crushed rock quarry in Warwickshire near Atherstone at Mancetter, although there are other reserves which may not be economically viable to extract. These are at Griff (V) and Jees and Boon. The quarries have been previously worked but have been left inactive in recent years.

Figure 6: Crushed Rock – Geology and Sites in Warwickshire 2015



At the same time the permitted reserves for the county appear relatively healthy (see Table 5) below. A readjustment was made in 2010 as reserves that had been reported previously as available were no longer considered viable[9]. Further discussion with the industry is being carried out to reassess the reserves as it appears that there have been recent changes in land ownership of crushed rock quarries which may impact on the quantity of viable reserves available in the future. Permitted reserves figures are provided by the mineral operators for each site and then added together to provide a final figure for each county. The landbank of the county's crushed rock is given in years and is worked out by dividing the county's total permitted reserve by its annual apportionment. The county should aim to hold a 10 year landbank for crushed rock. The current landbank at December 2015 stands at 30.97 million tonnes based on figures reported by the minerals industry. The calculation is based on the former sub –regional apportionment because we cannot give figures out for a single site for the reasons set out below in Section 3.21.

Table 5 – Crushed Rock permitted reserves and landbank in Warwickshire 2006-2015

Year	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Reserves (Million tonnes)	30.8	30.2	29.91	29.1	21.6	21.0	26.5	25.68	25.68	27.26
Landbank Years)	35	34.34	34	33.1	24.5	23.86	30.11	29.18	29.18	30.97

Source – Regional Aggregate Working Party Reports

Table 6: Crushed Rock Sites in Warwickshire with reserves 2015			
Site	**Operator**	**Aggregate**	**Active?**
Mancetter	Tarmac/ Lafarge	Diorite/Shale	Yes
Griff IV	Hansons/ MQP	Diorite	No
Griff V	Hansons /MQP	Diorite	No
Jees and Boon	MQP	Diorite	No

Source – Regional Aggregate Working Party Reports

3.21 Crushed Rock Sales (Exports)

There is an issue with reporting crushed rock sales figures due to a requirement for confidentiality where there are less than three operational sites in one county. This is due to long standing arrangements between the industry and government to protect commercial interests of mineral operators. This means that when sales for crushed rock are reported in Warwickshire the figures are usually added to those of another county, which in this case just used to be Staffordshire. These figures should have now also have been added to the figure for Herefordshire. This is required so that industry competitors do not know the amount produced by each quarry.

[9] West Midlands Regional Aggregate Working Party Report 2010

Therefore the figures shown below in Table 6 have been combined with those of Staffordshire and Herefordshire. Warwickshire has requested a meeting with industry representatives to see whether any confidentiality restrictions can be removed but this does not appear to be possible at the current time.

The sales of hard rock over the past ten years are well below the regional apportionment and have dropped to a particularly low level in recent years since 2008, mainly due to the recession and an associated lack of demand. Some of the crushed rock production may have been partly replaced by increasing recycled aggregate production in the county. The recycling industry produces a Type 1 stone from recycled aggregate which accords with the WRAP Aggregates Protocol[10]. This may also have replaced some of the crushed rock imports from other counties.

It appears that the lowest point in production may now have been reached and the declining trend in crushed rock sales appears to have been halted.

The past crushed rock apportionment for Warwickshire was 0.88mt[11]. When added to the figure for Staffordshire (1.395mt) the figures are well below what the combined apportionment would be and are falling further (see Table 7).

Table 7: Crushed Rock sales in Warwickshire and Staffordshire 2006-2015 (million tonnes)

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Sales	1.4	1.3	0.9	1.0	0.6	0.48	0.525	0.329	-	-
Warks App't	0.88	0.88	0.88	0.88	0.88	0.88	0.88	-	-	-
Staffs App't	1.395	1.395	1.395	1.395	1.395	1.395	1.395	-	-	-

Source – Regional Aggregate Working Party Reports

Warwickshire's sales of crushed rock are generally for the local market. From the results of the Collation of the Aggregate Minerals 2009 BGS Survey, 71% of crushed rock produced in Warwickshire was used in the county. The remainder was exported to other parts of the West Midlands region. When the 2009 Survey took place there were two crushed rock sites in production. There is no graph of actual sales due to the confidentiality issue mentioned above. However, the proportions of material exported can be shown (See Fig. 7).

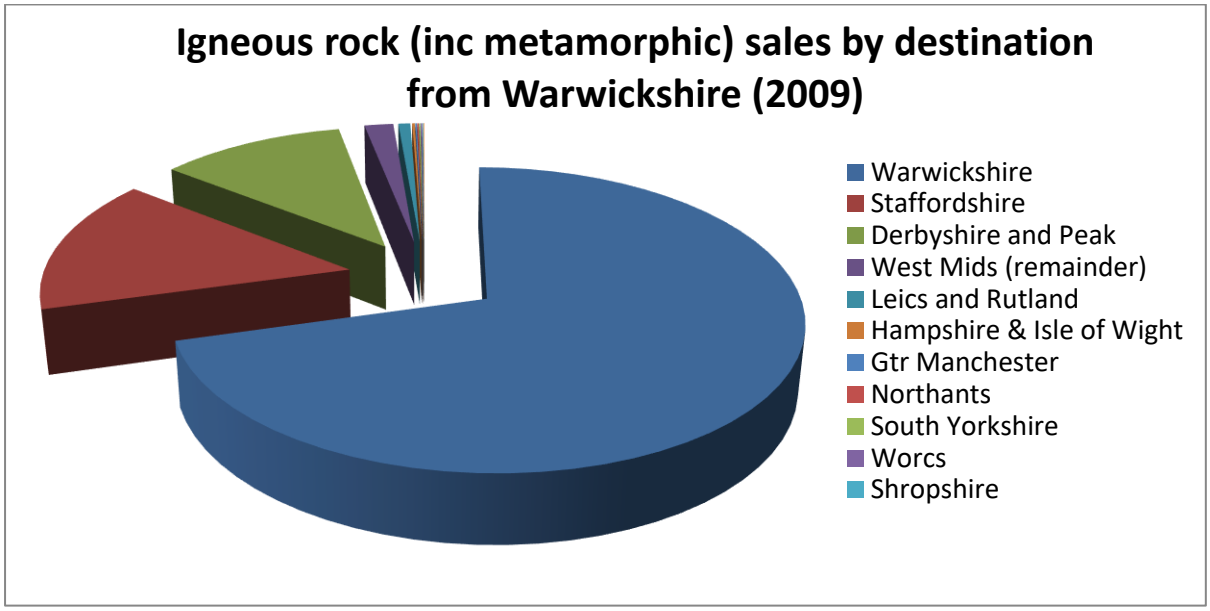
Another detailed survey was carried out in 2015 but the results have not been published. It is possible to confirm that all the material quarried in Warwickshire was

[10] Originally it was known as the "Quality Protocol for the production of aggregates from inert waste in 2004 but is now known as the "Quality Protocol: Aggregates from inert waste. End of Waste Criteria for the production of aggregates from inert waste" produced by WRAP, the Environment Agency, the Welsh Assembly Government and the Northern Ireland Environment Agency.

[11] Figure based on the National and Regional Guidelines for Aggregate Provision in England 2001-2016 published in June 2003 (CLG)

either used in Warwickshire itself or the West Midlands region. None was exported outside the West Midlands region.

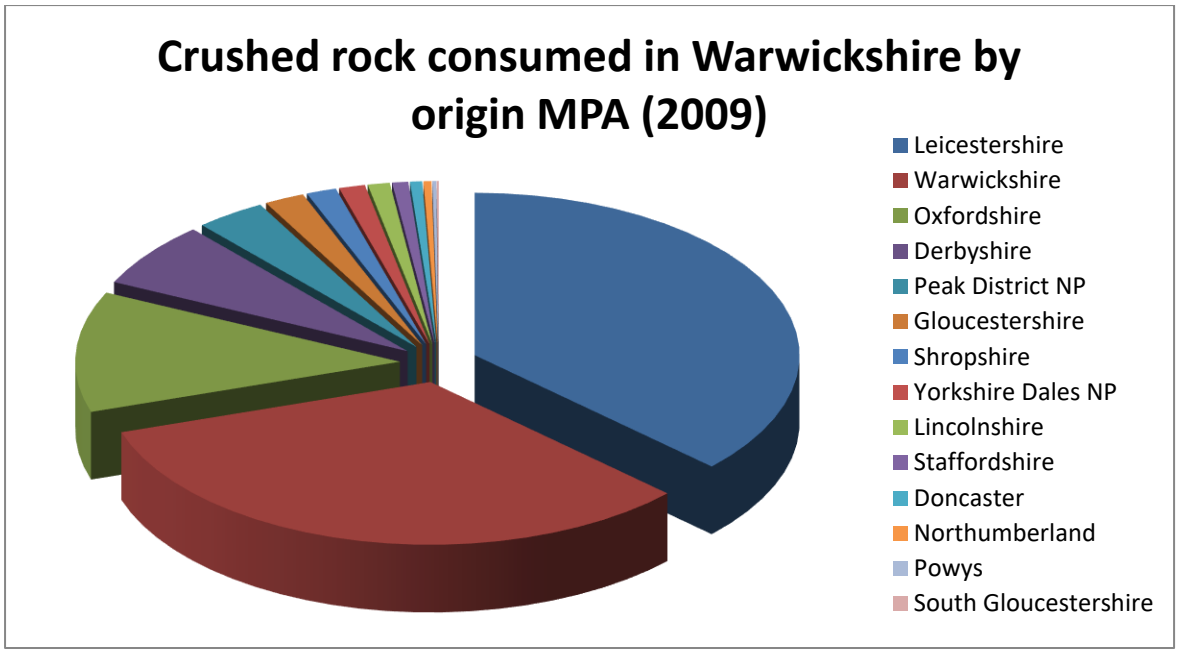
Figure 7: Igneous Rock Sales from Warwickshire 2009



3.22 Crushed Rock Imports

In regard to crushed rock imported in to Warwickshire, the total amount was 448,753 tonnes in 2009. Leicestershire supplied between 35-40% Warwickshire supplied 33%, Oxfordshire supplied 10-15% and Derbyshire supplied between 5-10%. In descending order, the Peak District National Park, Gloucestershire, Shropshire, Yorkshire Dales National Park and Lincolnshire supplied between 1-5%. Staffordshire, Doncaster, Northumberland and Powys each supplied less than 1% in descending order. South Gloucestershire was also reported to have supplied an extremely small amount.

Figure 8: Crushed Rock consumed in Warwickshire 2009



Therefore, whilst Warwickshire imported 449,000 tonnes of crushed rock, consumption in total was 667,000 tones.

In summary, in 2009 Warwickshire was a net importer of crushed rock. It is unlikely that this situation will have changed since 2009.

3.3 Recycled and Secondary Aggregates

Emphasis should be placed on recycled and secondary aggregates as national policy requires that such sources should be considered before the extraction of primary aggregates to minimise the amount of primary aggregate extraction[12].

3.31 Recycled Aggregates:

Recycled aggregates comprise construction, demolition and excavation waste such as brick, stone, concrete and asphalt which have been reprocessed to provide products for the construction industry to re-use. Traditionally, much of the material was recycled by mobile plant on construction sites but recently there has been an increase in the number of new permanent sites associated with live or exhausted quarries. This is certainly the case in Warwickshire with several recent permissions at former quarries. It is apparent that recycling of aggregates is becoming as important in the county as the production of primary aggregate production.

Currently there are 9 recycled aggregates sites in the county; these are set out below with their permitted capacities (See Table 8).

[12] Guidance on the Managed Aggregate Supply System – DCLG October 2012

Table 8: Aggregate recycling sites in the county(2015)

Site number	Site name	Operator	Permitted Capacity (tpa)	Date of permission	Time Limited?
1	ABS, Tuttle Hill, Nuneaton	ABS	Unlimited – (Transfer)	October 1992	No
2	Hammonds Bayton Road, Bedworth	Hammonds	30,250	Originally approved in 1999	No
3	Brinklow Quarry, Highwood Farm, Brinklow	Mrs J Aston	45,000	February 2007	Required to cease at end of the mineral operation
4	Canalside Yard, Napton	Jordan Contracts Midlands Ltd	Unlimited	Sept 2004	No
5	Coleshill Quarry, Coleshill	Cemex/ Weavers Hill Aggregates	90,000	Sept 2011 (Renewal of permission)	20.09.14
6	Dunton Quarry, Curdworth	KSD	500,000*	May 2012 (Renewal of permission)	31.12.21
7	MAC Griff Clara	MAC Contracting	75,000	July 2012	No
8	Griff IV Quarry, Nuneaton	WCL Quarries Ltd	25,000	October 2012 (subject to S106)	31.12.32
9	Middleton Hall Quarry,	Parkstone /Hanson Aggregates	65,000	May 2012	31.12.22

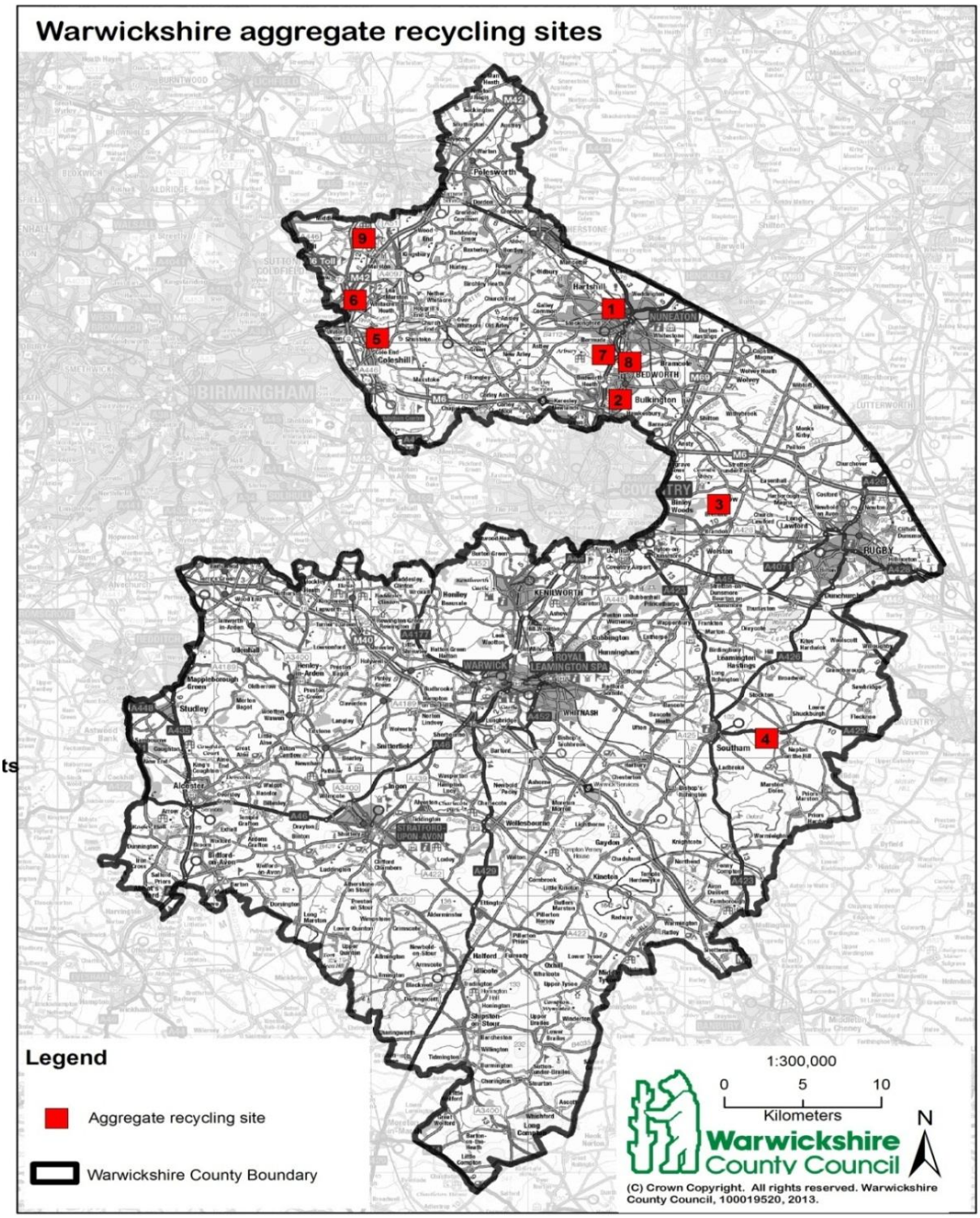
*Unlimited capacity for planning. Figure refers to EA Licenses.

In recent years construction and demolition (c and d) waste recycling figures have not been fully monitored because of the difficulty in getting returns from operators and the number of temporary sites with mobile plant. In addition, there are also issues regarding the accuracy of the returns and the extent of the number of exempt sites.

Monitoring work carried out for the adopted Waste Core Strategy looked at permitted capacity at such sites and when added to recent permissions gives an approximate total of 830,250 tonnes of capacity per annum. However, for 2013 the AWP survey has tried harder to focus on recycled and secondary elements and from 9 monitoring forms sent out to operators, figures from individual operators and from the Waste Data Interrogator, produced a total of 575,388 tonnes of construction and demolition waste material recycled for 2013. This is an increase in the total figure for 2012 which had a figure of 524184 tonnes. Recent permissions at Griff IV Quarry (a former hard rock quarry), Griff Clara and at the former Middleton Hall Quarry have

added 100,000 tonnes of capacity since the start of 2012. In addition, a recent permission at Dunton Quarry (a former sand and gravel quarry) has secured the lifespan of the county's largest c and d recycling site for a further 10 years.

Figure 9: Warwickshire Aggregate Recycling Sites (2015)



3.32 Construction and Demolition Waste Arisings

Work carried out for the Warwickshire Waste Core Strategy adopted in July 2013 identified, through the EA's Waste Data Interrogator that, 454,926 tonnes of inert/C&D type waste arose in Warwickshire, of which 115,840 tonnes was classified as SOC2 - 'Construction and Demolition wastes'. The Interrogator also showed that 679,038 tonnes of inert/C&D type waste was managed at Warwickshire facilities, of which 139,945 was classified as SOC2- 'Construction and Demolition wastes'.

WCC set out its preferred approach for calculating C&D waste projections over the plan period from several methodologies and concluded the most robust methodology was the Scott Wilson Landfill Capacity Update Report (June 2009) - Scenario 1 data as the most up-to-date arisings baseline data (i.e. Capita Symonds 2005 data), and its associated development index growth scenarios as it took in to account housing growth unlike some other options. The figures revealed a decline in C and D arisings from 890,378 tonnes in 2011 down to 801,158 tonnes by the end of the plan period (see Table 9).

Table 9: Warwickshire Projected C and D Waste Arisings 2010-2031

WMRA/Scott Wilson Landfill Capacity Update report - June 2009 (Scenario 1)

	2010/11	2015/16	2020/21	2030/31	Cumulative total
Warwickshire	890,378	816,727	808,530	801,158	20,022,653

Source: Appendix C – WMRA/Scott Wilson Landfill Capacity Update Report – June 2009[13]

It was estimated that to meet the revised EU Waste Framework target of 70% of non-hazardous construction and demolition waste (excluding naturally occurring materials) to be recovered by 2020, approximately 571,708 tpa of C&D treatment capacity would be required. Warwickshire, taking in to account potential loss of some temporary permitted capacity at some stage over the plan period, is still in a good position to exceed this target substantially throughout the plan period and can offset this against the trend in reduction of primary aggregate production. When potential exempt sites are added to the equation it is clear that there will be even greater capacity for C and D recycling to contribute to aggregate production in the county.

Therefore it is evident that construction and demolition waste recycling makes a major contribution to aggregates in Warwickshire as a whole and is making up the gap caused by the shortfall in primary aggregates.

[13]Landfill Capacity Update report - June 2009 (Scenario 1) WMRA/Scott Wilson

3.33 Secondary Aggregates:

Secondary aggregates are aggregates which are derived from the residue from various types of industrial process such as incinerator bottom ash. They also include recycled glass which can also be added to primary aggregate.

The main industrial process from which secondary aggregates can be produced in Warwickshire is via the cement production process at Rugby Cement Works. The residue from the process is cement kiln dust (CKD). In previous times the dust has always been landfilled but it can also be used for construction purposes. However, in the last year or two the CKD has been sent onwards to a recycling facility where it is used to make agricultural fertiliser.

Incinerator bottom ash is used as secondary aggregate and mixed in with recycled aggregates at Dunton Landfill in North Warwickshire. Recycled glass is also used a secondary aggregate when mixed with other materials. This process is undertaken at Brinklow Quarry near Coventry in Rugby Borough.

3.34 Marine Aggregates:

The NPPF states that MPA's should take in to account all supply options including marine aggregates. There is no evidence that Warwickshire receives any marine aggregates. The Collation of the Aggregate Minerals Survey 2009 revealed that there were no marine aggregates reported at that time. Being landlocked and not accessible by river from the coast, it is unsurprising that Warwickshire has no reliance on marine aggregates.

4.0 WARWICKSHIRE FUTURE AGGREGATES DEMAND

4.1 Future Demand

Consumption of aggregates was 667,000 tonnes for crushed rock and 493 000 tonnes for sand and gravel in 2009.

The main end uses for aggregates are for the construction of housing and infrastructure as well as industrial and commercial building. Large scale development is proposed in all of the Districts and Boroughs in the county including major developments at the Masts site in Rugby and a potential new settlement at Gaydon near the M40 junction 12 in Stratford District. There are also large-scale developments proposed to the south of Leamington, the north of Nuneaton and to the south of Coventry at the Warwick Gateway site. Recently, a Strategic Housing Market Assessment (SHMA)[14] has been carried out for most of the Boroughs and Districts in the county along with Coventry City Council. This will identify the total number of dwellings required for each authority.

[14] Coventry and Warwickshire Joint Strategic Housing Market Assessment 2014 - G L Hearn

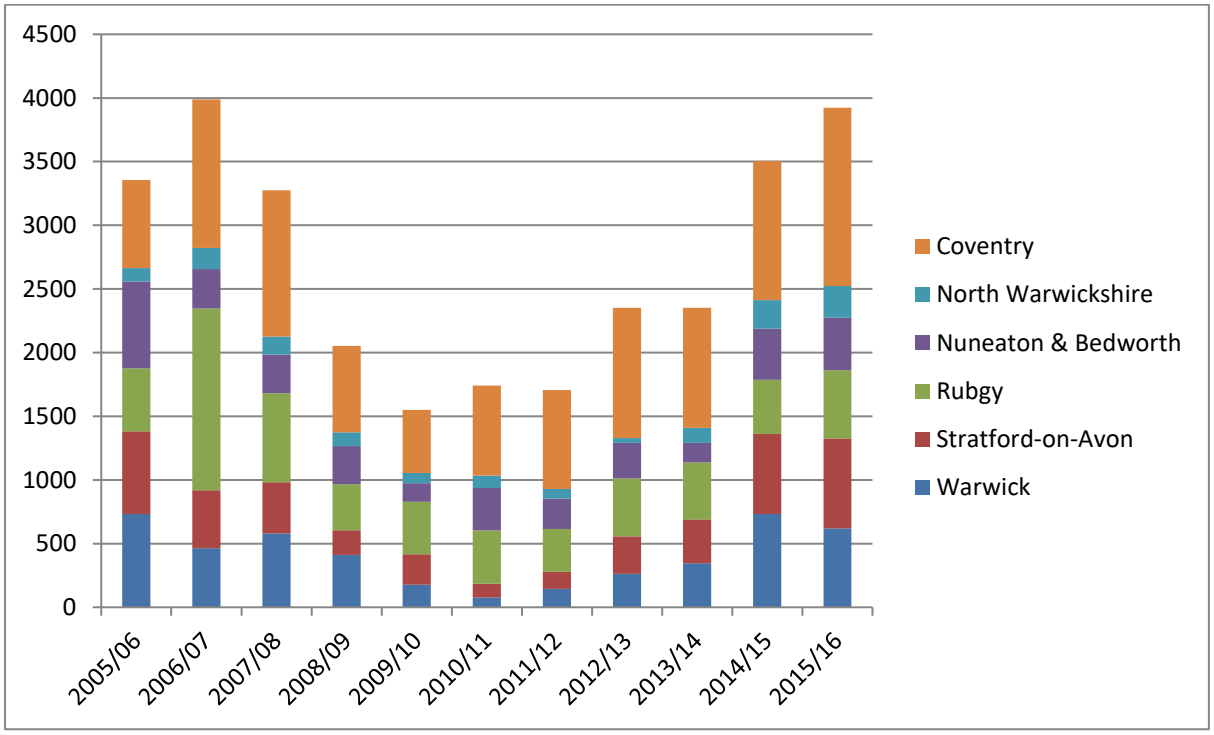
Nationally important projects in Warwickshire include the Government's High Speed Rail 2 (HS2) which is proposed to run through the county from south to north. The construction of HS2 will place demands on aggregates but at the current time WCC has been informed that all the sand and gravel for the construction project will be sourced from quarries predominantly in the south east[15]. If this position changes then the overall LAA figures need to be re-assessed.

4.2 Housing Needs in Warwickshire

The main driver affecting the quantity of aggregates to be supplied is construction and in particular the construction of new housing and its associated infrastructure. Housing and infrastructure are 'more intensive than industrial and commercial construction and repairs. Until recently, there has been much uncertainty about housing numbers for each district and borough in Warwickshire.

During the downturn from 2007 onwards, the number of dwellings built in the sub-region declined sharply (see figure 10). The situation was exacerbated with the housing moratoria in Warwick and Stratford Districts still in place. The graph also reflects very well the peaks and troughs of the sand and gravel sales graph previously set out in Figs 2and 3. However, figures for recent years appear to show that the construction industry has increased residential development significantly and this is reflected in a large number of new residential permissions granted in the county in the last two to three years.

Figure 10: Warwickshire and Coventry net housing completions – 2006 -2015



[15] Meeting between HS2, Mott McDonald Consultants and Warwickshire Officers dated 13.03.13

Source: GL Hearn 'Coventry and Warwickshire Joint Strategic Housing Market Assessment – Final Report' (November 2013) Coventry CC and Warwickshire Boroughs and Districts.

Several Local District and Borough Plans are either adopted or now close to adoption. Local authorities in Warwickshire and Coventry jointly commissioned the preparation of a Joint Strategic Housing Market Assessment (SHMA) for their functional housing market area. The commissioning authorities were:

• Rugby Borough Council;

• Coventry City Council;

• Warwick District Council;

• North Warwickshire Borough Council;

• Nuneaton & Bedworth Borough Council.

Whilst Stratford District was not involved in the commissioning, figures were produced which give a broad indication of how much housing it will be required to provide over its plan period.

The purpose of the SHMA is to guide, inform and support the development of planning and housing policies and provides the evidence base for the development of local plans and core strategies. In particular it seeks to explain:

• how many homes might need to be developed in the future;

• what mix of homes might be needed;

• the housing needs of specific groups within the population.

Now the SHMA has been completed and the individual authorities have assessed what their 5 year land supplies should be and these are compared to their most recent housing output figures in Table 10.

Housing Figures

Table 10: Summary of proposed housing in Coventry/Warwickshire Districts and Boroughs based on Coventry and Warwickshire Strategic Housing Market Assessment (SHMA) figures 2015

	Plan Period	5 YLS requirement	Housing supply at present	Av dwellings per annum required
Coventry	2011 - 2028	6081	7764	1216
North Warwickshire Borough Council	2006 - 2028	1092	n/a	218
Nuneaton and Bedworth Borough Council	2010 - 2028	2463	2011	492
Rugby Borough Council	2006 - 2026	2665	1980	533

Stratford District Council	2008 - 2028	4693	1033	939
Warwick District Council	2011 - 2029	5836	5262	1167
Total		22830		4565

The average number of dwellings required to be built per annum is above the levels attained during the last housing boom peaking in 2007 and the current production is over 2.5 times the levels reached in 2008, 2009 and 2010. This must be considered in the context that there are now only two active sand and gravel quarries compared to the 7 or 8 that were in the county in 2007.

A footnote needs to be added at this point. Birmingham City Council has an adopted plan which requires much of their housing requirement to be placed outside the city boundaries. This will have a knock on effect in many adjacent districts and boroughs so it is very likely that further demands will be placed on the county in the future to plan for further increased housing levels to help deal with the city's shortfall. This is already feeding through in to Warwickshire Borough and District Local Plans. Coventry is also in a similar position in not being to deliver all its housing within its boundaries. Again, more reliable may be placed on Warwickshire to take some of that shortfall.

4.3 Employment Requirements in Warwickshire

Warwickshire Boroughs and Districts along with Coventry City Council have undertaken, in conjunction with the County Council, an Employment Land Review[16] which sets out the requirements for each individual authority in the sub-region.

Table 11 summarises the future land requirements in each local authority according to previous employment land studies undertaken as well as the additional employment land allocations required to meet this further demand.

Table 11 - Summary of Local Authority Employment Land Reviews

Local Authority	Additional Employment Land demand	New employment land allocation needed	Assessment period
Coventry	84ha – 180ha	0ha – 69ha	2011-2028
N. Warks	58ha	29ha	2011-2029
Nuneaton and Bedworth	57.5ha – 144ha	36ha	2006- 2026
Rugby	108ha	67ha	2006- 2016
Stratford	25ha – 30ha	24ha	2008-2028
Warwick	66ha	15ha-25ha	2011-2030
Total[17]	493ha	211ha	

[16] Warwickshire Employment Land Review – February 2014
[17] The mid-point has been used where employment land need is presented as a range.

Work had previously been undertaken by the authorities individually but no agreement had been made on sub-regional capacity. Some large employment schemes are in the pipeline which will add to demands on aggregate supply. In addition to the requirements for each Borough and District in the county, Warwick District Council has received a planning application for a major new strategic Technology and Manufacturing / Distribution Park on land around Coventry airport. This proposal is known as the "Coventry & Warwickshire Gateway".

The application has been submitted by the Coventry & Warwickshire Development Partnership and is seeking planning permission to build on two areas of land. The southern 200 acres is capable of providing 3.6 million sq ft of large B2/B8 warehousing, whilst the northern 60 acre plot fronting the A45 has the potential for a variety of B1(a) (b) and (c) uses together with a hotel and other ancillary retail uses, totalling 900,000sq.ft. The proposed development could provide jobs for up to 10,000 people. The site is in close proximity to some of the proposed sand and gravel sites put forward as preferred options in the Minerals Plan.

5.0 WARWICKSHIRE'S FUTURE AGGREGATES ASSESSMENT

Government guidance requires that LAAs should include:

- a forecast of the demand for aggregates based on the average of 10 years sales data and other relevant local information;
- analysis of all aggregate supply options as indicated by landbanks, mineral plan allocations and capacity data e.g marine licences for marine aggregate extraction and potential throughputs from wharves. The analysis should be informed by planning information, the aggregate industry and other bodies such as local enterprise partnerships; and
- an assessment of the balance between demand and supply, and the economic and environmental opportunities and constraints that might influence the situation. It should detail if there is a shortage or a surplus of supply and if the former how this is being addressed. Table 11 below summarises the position in the county with aggregate options for future supply.

Table 12 sets out the most up to date 10 year sales data for crushed rock, sand and gravel and recycled aggregates where the figures are available.

Table 12: Warwickshire's Future Total Aggregate Supply 2006-2015											
Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Ave
Sand and Gravel	0.98	1.19	0.85	0.75	0.33	0.42	0.40	0.209	0.280	0.322	5.731
Crushed Rock	1.4	1.3	0.9	1.0	0.6	0.48	0.525	0.329	**	**	0.86^
Recycled Aggregates	0.5e	0.5e	0.5e	0.5e	0.5e	0.5e	0.524	0.575	0.5e	0.5e	0.51
Primary Aggregate Total	2.38	2.49	1.75	1.75	0.93	0.90	0.925	0.538	**	**	0.599^

^Average figure for Staffordshire and Warwickshire combined.

**Figures not available due to Confidentiality issues

e = estimated production as no firm figures available.

The other relevant local factors when assessing future aggregates provision include the following:

1. Currently in 2016 there are only two sand and gravel quarries operating in Warwickshire whilst several have closed down permanently over the last 5 years. However, a large extension of 3.4 million tonnes has been approved subject to a Section 106 Agreement in June2016.
2. The Warwickshire sand and gravel permitted reserves at 2016 primarily comprises three sites; two active and one inactive; there are also and two with relatively small reserves. There is no evidence to indicate that the inactive site will be developed in the near future.
3. Some of the main operators, which have traditionally carried out quarrying in the county, state that the resource left after centuries of sand and gravel extraction is of inferior quality compared to other resources elsewhere and is not economically viable for extraction.
4. A request for sites was carried out in 2009 and it was estimated that there was not enough capacity over the plan period to meet the current apportionment. A new request for sites was recently made in December 2013. The sites and information submitted are now being assessed as part of the Minerals Plan process.
5. The Warwickshire Minerals Plan which was adopted in February 1995 allocated 9 Preferred Areas for sand and gravel extraction and 11 Areas of Search. Of these sites, in all that time, only 3 sites have been part extracted, one of which was just for prior extraction of a small part of the site.

6. The trend of declining sales and reserves of sand and gravel has been offset by an increase in the production of recycled aggregates.

Evidence from past sales over the last 10 years and the general conditions on the ground demonstrate that Warwickshire would have struggled to meet the sub-regional apportionment set out in the guidelines, which were due to be replaced in 2016. There was never any agreement to the latest guidelines, which were never adopted by the West Midlands Aggregate Working Party.

For all intents and purposes national and sub-regional apportionment guidelines have been replaced by the Local Aggregate Assessment and whilst previously we had sought to plan for the apportionment until the end of the 2016 period it is now clear that any departure from the 10 years rolling average is an unsound methodology and this view is backed up by the MPA's comments and Inspector's Reports following examination of other Mineral Plans[18].

Consequently, the former sub-regional apportionment has been used as a guide only, from which to compare the current production figures.

For sand and gravel the 10 year average figure is 0.688mtpa. This is effectively the new apportionment figure at the current time. The plan must provide for a period of 15 years. The total sand and gravel requirement over the 15 years is therefore 15 x 0.688 = 10.32 million tonnes.

The NPPF also specifies that there should be a 7 year landbank throughout the plan period. Currently there are permitted reserves totalling 4,964,908 million tonnes. The landbank can be calculated by dividing the apportionment by the permitted reserves. (4.965 by 0.688) = 7.2 years. This means that we will start the plan period with a full landbank.

These figures will feed in to the Minerals Plan for the purposes of allocating enough sand and gravel sites to cover the plan period of 15 years.

Whilst there has been a reduction in primary aggregate sales, there has been a parallel growth in construction and demolition waste recycling in the county. There are now 9 major recycling sites in the county with a minimum permitted capacity of at least 743,250 tonnes. This includes two new sites approved in 2012/13. A further site near the border with Leicestershire has been submitted for planning approval and if permitted could add a further 25,000 tonnes per annum of capacity.

Based on the NPPF guidance Warwickshire will plan to produce 0.688 million tonnes per annum throughout the plan period. For crushed rock it is not possible to work out a 10 year rolling average unless the figures for Warwickshire, Staffordshire, Herefordshire and Worcestershire are aggregated. The joint 10 year average figure for crushed rock is 0.86 million tonnes per annum.

[18] Northamptonshire County Council Report on the Examination in to the Northamptonshire Minerals AND Waste Local Plan – 15th August 2014

The figure takes into account the other relevant local factors described above including the increase in production of recycled aggregate in the county and the limited take up of sand and gravel reserves by the minerals industry in the county.

Finally, it should be noted that the LAA figure was calculated in the context of a 10 year average sales figure which takes account of 6 years of economic growth and 4 years of economic downturn. Therefore the LAA figures are representative of a range of conditions to reflect all market conditions.

6.0 CONCLUSION

Warwickshire County Council is required to prepare a Local Aggregates Assessment based on a 10 year rolling average of sales data and other relevant information and an assessment of all supply options including marine dredged, secondary and recycled aggregates in accordance with paragraph 145 of the National Planning Policy Framework.

A ten year rolling average has been calculated for the county's aggregate minerals which comprise crushed rock and sand and gravel. The current indicative 10 year average figure for sand and gravel is 0.688 million tonnes per annum.

It is not possible to calculate an LAA figure for crushed rock as the county's figures are merged with those for Staffordshire, Herefordshire and Worcestershire.

The other relevant local information is set out in section 4 of this report. This includes evidence to show that Warwickshire's sand and gravel sales are declining and have only met the apportionment figure once in the past ten years even during periods of increased construction activity. Numerous sites have closed in the last five years and currently there are only two active sand and gravel sites and one active crushed rock site in the county. Additionally, it appears that the minerals industry is not putting enough sites forward for future development, the reason being given, that the quality of the material is not economically viable.

In terms of demand, this document has summarised the most up to date information regarding housing numbers for all the Boroughs in Warwickshire and for the other authorities in the Sub-region; Coventry and Solihull through the SHMA. It sets out the local housing requirements which the minerals industry will have to supply locally.

Figures from the BGS in section 3 show that there are cross boundary flows of aggregates from Warwickshire to other regions and flows from other regions into Warwickshire.

Marine dredged aggregates are not readily available in the county at the current time. However, recycled aggregate production is growing in the county with a large permitted capacity some of which is temporary but which is likely to remain in use for the plan period. Secondary aggregate processing is also expected to continue to contribute to the County's aggregate requirements in the future. It is expected

therefore that recycled and secondary aggregates will contribute to offsetting any future reduction in supply of primary aggregate.

7.0 APPENDICES

Appendix 1

West Midlands Aggregate Working Party Membership

Mineral Planning Authorities

Worcestershire County Council

Sandwell Metropolitan Borough Council

Shropshire Council

Stoke on Trent City Council

Solihull Metropolitan Borough Council

Staffordshire County Council

Telford & Wrekin Council

Herefordshire Council

Warwickshire County Council

Walsall Borough Council

Birmingham City Council

Coventry City Council

Dudley Metropolitan Borough Council

Wolverhampton City Council

Industry representatives

Mineral Products Association (MPA)

Hanson Aggregates Ltd

Lafarge Tarmac Aggregates

Cemex UK

Breedon Aggregates Ltd.

National Federation of Demolition Contractors (NFDC)

Armac D.E.L.

British Aggregates Association (BAA)

Montspur

Central Government Representatives

Communities and Local Government

DEFRA - Food and Rural Affairs

Environment Agency