

Buckinghamshire County
Council

Local Aggregate
Assessment 2014

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I. Executive Summary

- 1.1. This is the second Local Aggregate Assessment (LAA) produced for Buckinghamshire since the publication of the National Planning Policy Framework in 2012. This LAA considers aggregate supply and consumption during 2013, from all known sources. Paragraph 145 of the NPPF introduced a requirement for Minerals Planning Authorities (MPAs) to produce a Local Aggregate Assessment (LAA) each year. The LAA is intended to outline the level of supply of and demand for aggregates within Buckinghamshire, and makes an assessment as to whether there is a shortage or surplus of supply, and how any shortages will be addressed.
- 1.2. Buckinghamshire is a landlocked area, and produces sand and gravel predominantly in the south of the county. Sales of sand and gravel in Buckinghamshire have been declining generally during the past ten years, and have only shown a slight rise in 2013. Crushed rock aggregate is imported from Leicestershire, Somerset, and the West Country. It is believed that substantial flows of sand and gravel into the north of the County take place from adjacent Mineral Planning Authority areas, such as Northamptonshire, Bedford Borough, Central Bedfordshire, and Hertfordshire.
- 1.3. The level of permitted reserves of sand and gravel at 31st December 2013 were sufficient for 8.3 years supply if calculations are based on the Minerals and Waste Core Strategy level of provision, or 10.04 years if based on the rolling average of the past ten years sales. The rolling average of the past ten year's sales is the preferred method. This is partly due to the connectedness of Buckinghamshire to local consuming markets within the south-east, and that Buckinghamshire is part of a much larger sand and gravel aggregate producing area.
- 1.4. Although the data concerning production of recycled aggregates is poor, a significant source of secondary aggregates will commence supplying in 2016, since the energy from waste incinerator in construction at Calvert will begin supplying Incinerator Bottom Ash then.
- 1.5. Two large construction projects are likely in the next few years. Firstly, the construction of the HS2 rail line, and secondly, the East West Rail line. However the amount of aggregates required for these schemes is not known precisely, nor is there certainty that these projects will source materials from quarries in Buckinghamshire, as opposed to other neighbouring Counties.
- 1.6. Nearly all of the Preferred Areas for sand and gravel extraction identified in the Buckinghamshire Minerals and Waste Local Plan adopted in 2006, have now been permitted. Only part of Preferred Area I remains without planning permission, the remainder falling within the boundary of the permitted Springfield Farm site. In order to maintain a supply of aggregates from the most environmentally acceptable locations a Replacement Minerals and Waste Local Plan is to be progressed, beginning with a Regulation 18 consultation in 2014. The RMWLP will identify new Preferred Areas for

aggregates production. For a list of permitted aggregate producing sites within Buckinghamshire see Tables 2 and 7.

2. Introduction

The purpose of the Local Aggregate Assessment

- 2.1 Buckinghamshire County Council, as a Minerals Planning Authority (MPA), is required under the National Planning Policy Framework (NPPF)¹ to prepare an annual Local Aggregate Assessment (LAA). The LAA provides an annual evaluation of aggregate supply and demand in the County, and examines a rolling average of the previous ten years sales data, other relevant local information, in order to develop an assessment of all supply options. Based on this data, the LAA considers whether the County Council can meet its obligation to plan for the steady and adequate supply of aggregates, with existing reserves.
- 2.2 Buckinghamshire County Council adopted its Minerals and Waste Core Strategy (MWCS) in November 2012, which contained strategic policies for the provision of aggregate minerals in Buckinghamshire. The County Council published a new Minerals and Waste Local Development Scheme in 2014 which expressed the intention to amalgamate the previously intended Minerals Local Plan, and the Waste Local Plan, and to create a “Replacement Minerals and Waste Local Plan” (RMWLP). The County Council is due to commence work on the “Replacement Minerals and Waste Local Plan (RMWLP)” in 2014, and this will identify “Preferred Areas” for future minerals extraction, so as to ensure adequate supply of aggregate minerals throughout the plan period.
- 2.3 Following the adoption of the MWCS in November 2012, the Local Aggregate Assessment for 2014 will be the second annual LAA produced by Buckinghamshire County Council. In future, the Council intends to include the LAA as an Appendix to the Monitoring Reports published during each year. The Local Aggregate Assessment will help to fulfil the duty to keep the demand and supply of aggregates under regular review.
- 2.4 This LAA uses the most recently available information, in order to monitor and review aggregate supply and demand, during the period January to December 2013, and to provide the most recent information available in relation to the County’s permitted reserves of aggregate minerals. The Local Aggregate Assessment will be important in informing the preparation of the “Replacement Minerals and Waste Local Plan”.

Background

- 2.5 Aggregates are a crucial group of raw materials for the construction industry, and used in the construction of housing, commercial spaces, and offices, as well as in the construction

¹ National Planning Policy Framework, Paragraph 145, DCLG 2012

and maintenance of infrastructure. They are essential to deliver growth and regeneration. This group of materials includes both minerals extracted from the ground (primary aggregates), as well as alternative aggregates (both recycled, and secondary aggregates).

- 2.6 Minerals are a finite resource, and can only be worked where they are found. It is the role of Minerals Planning Authorities (MPAs) to maintain the long-term conservation of mineral resources, while at the same time maintaining an adequate national and local supply. In the case of sand and gravel, Minerals Planning Authorities are required to maintain a “Landbank” of reserves sufficient for at least 7 years of supply, and at least 10 years for crushed rock. (Buckinghamshire has no permitted reserves of crushed rock.) The “landbank” is defined as the sum in tonnes of all permitted reserves for which valid planning permissions are extant. This includes current non-working sites, but excludes dormant sites and inactive sites, for which a review is required before operations can commence or resume.
- 2.7 As Buckinghamshire is not a producer of crushed rock, and imports all the crushed rock required for the county’s needs, it is not required to identify a “landbank” of rock which could produce crushed rock. Therefore this report will not include sales and reserve data for crushed rock.

The Managed Aggregate Supply System

- 2.8 In England, the supply of primary aggregate to meet national needs is based upon the Managed Aggregate Supply System (MASS). The system seeks to ensure that geographical imbalances between the occurrence of suitable natural resources, and the areas they are most needed, are met through appropriate contribution towards national, as well as local supply, by Minerals Planning Authorities which have adequate resources of aggregates.
- 2.9 This has previously involved the publication of national and regional guidelines for aggregates provision in England, based on forecasts of mineral provision, which could then be incorporated into the Regional Spatial Strategies. Critical recent changes to the planning system include the revocation of the Regional Spatial Strategies, and the publication of the National Planning Policy Framework (NPPF). The NPPF amended the Managed Aggregate Supply System, by decentralising more power to Minerals Planning Authorities to determine the appropriate level of mineral extraction for their area. The tool for this is the requirement for MPAs to produce an annual Local Aggregates Assessment (LAA)².

“Minerals Planning Authorities should plan for a steady and adequate supply of aggregates by: preparing an annual Local Aggregate Assessment, either individually or jointly by agreement with another or other minerals planning authorities, based in a rolling average of ten years sales data and other relevant local information, and an assessment of all supply options (including marine dredged, secondary and recycled sources).”

² National Planning Policy Framework, Paragraph 145, DCLG 2012

- 2.10 The National Planning Practice Guidance³ (NPPG) has been published on the DCLG website, alongside the National Planning Policy Framework, which states that the LAA should forecast the demand for aggregates based on a ten year rolling average, including an analysis of the aggregate supply options for the MPA, the “landbank”, existing permitted mineral capacity, and mineral allocations in local plans.

Recent and Current Buckinghamshire Apportionments

- 2.11 The most recent national guidance on the provision of aggregate minerals³ set out a figure of 13 million tonnes per annum (mtpa) for the supply of land-won sand and gravel in the South East region over the period 2005 to 2020. Buckinghamshire has historically been part of the South East region, and continues to be a member of the South East of England Aggregates Working Party. This figure was incorporated into the South East Plan (SEP), where the figure was apportioned between the MPAs in the region as set out in policy M3 of the SEP. Based on this figure, Buckinghamshire’s apportionment was set at 990,000 tonnes per annum (tpa). This figure was based largely on past regional shares of sand and gravel production.
- 2.12 In October 2009, policy M3 of the SEP was subject to a review and subsequent Examination in Public (EiP) on the national guidelines apportionment for the South East region, the apportionment methodology, and consequently the sub-regional apportionments. The Examination in Public concluded that the guideline figure for sand and gravel should decrease to 11 mtpa for the region, recognising a fall in sales, which was then apportioned to 1.05 mtpa sand and gravel for Buckinghamshire⁴.
- 2.13 This new sub-regional apportionment was consulted upon in March 2010. However, the Government announced its intention to revoke regional strategies in June 2010, prior to the adoption of the proposed changes to policy M3, and sub-regional apportionment. Minerals Planning Authorities (MPAs) were directed by the Secretary of State⁵ to work from the apportionment as set out in the proposed changes to the revision of policy M3. MPAs are, however, able to set alternative figures if they have new or different information and a robust evidence base.
- 2.14 At the time that the NPPF was published in March 2012, Buckinghamshire County Council had already submitted its Minerals and Waste Core Strategy (MWCS) to the Secretary of State and it had undergone an Examination in Public. The Council was preparing to consult on a number of “proposed changes” arising from recommendations made during the Examination. Therefore in response to the publication of the NPPF, the Council included a reference to the NPPF, and a calculation of the ten year average of sale data based on the period 2001 to 2010 within the proposed changes. The 2001-2010

³ National and Regional Guidelines for Aggregates Provision in England, DCLG, June 2009

⁴ The Secretary of State’s Proposed Changed Regional Spatial Strategy for the South East Policy M3 Primary Land-won aggregates and sub-regional apportionment, GOSE March 2010

⁵ Letter to Chair of Economic Affairs Committee from Secretary of State, 25th June 2010

data formed the most up to date information available at the time. This calculation corresponded to an annual supply of 1.09mtpa⁶.

- 2.15 A revised calculation of the landbank and additional provision required over the plan period based on an aggregate supply of 1.09mtpa was also included. This information appears as paragraphs 4.23 to 4.27 of the adopted MWCS.

Preparation of the Local Aggregate Assessment

- 2.16 In compiling this Local Aggregate Assessment data has been sourced from the Aggregate Monitoring Survey that is undertaken each year by the South East England Aggregates Monitoring Report. The survey collects information relating to capacity, sales, and permitted reserves, from site operators of wharves and rail depots, secondary and recycled aggregate sites facilities, and mineral extraction sites. South East Aggregate Monitoring Report (AM2013) was published in August 2014 containing the data for 2013 and is the most recently published regional information at the time of writing this LAA.
- 2.17 In addition data sources include the expanded Aggregates Monitoring Surveys undertaken in 2009 (AM 2009) and 2005 (AM 2005), as well as Buckinghamshire County Council Annual Monitoring Reports (AMRs), and other studies undertaken in support of the MWCS.

3. Supply and Demand – National and Regional Context

- 3.1 The National Aggregate Minerals Survey takes place at four yearly intervals, however at the time of drafting the LAA the 2009 Aggregate Monitoring Survey was the most current available. These surveys are compiled by the BGS, and provide an in-depth understanding of regional and national sales, consumption, as well the transportation and movement of aggregates between MPAs and regions. The most recent of these surveys was carried out in 2009 (AM 2009)⁷.
- 3.2 AM 2009 reported the total sales of primary aggregate in England and Wales were 119.1mt in 2009, with 106.3mt in England and 12.8mt in Wales. Primary aggregate sales in England and Wales comprised 31.4% (37.1mt) land-won sand and gravel and 9.2% (11.0mt) marine dredged sand and gravel, with crushed rock making up the remaining 59.4% (70.7 mt).
- 3.3 Total sales of primary aggregate in England and Wales declined by about 32% between 2005 (172.7mt) and 2009 (119.1mt) with sand and gravel showing the largest fall of 36% from 58.2mt in 2005 to 37.1mt in 2009. Almost all regions showed a fall in total primary

⁶ The County Council's Reasoning for post-Examination proposed changes to certain mineral provisions contained in the MWCS Submission [CS1.1] (September 2011) and submitted Addendum to Topic Paper 6: Minerals [PS 2.11], Buckinghamshire County Council, February 2012(MWCS Examination Library Ref: PS5.2.2)

⁷ Collation of the Results of the 2009 Aggregate Minerals Survey for England and Wales, DCLG October 2011

aggregate sales between 2005 and 2009. AM 2005 also reported an overall reduction in sales of primary aggregate in England and Wales between 2001 and 2005⁸.

- 3.4 For land-won sand and gravel, the East of England former region recorded the highest proportion of sales in England, equating to 26% (9.67mt). The South East recorded sales of 6.0mt land-won sand and gravel, equating to 16.2% of total land-won sand and gravel sales in England. Buckinghamshire accounted for 12% (0.71mt) of the South East's share of sales, which means that Buckinghamshire accounted for 1.9% of total land-won sand and gravel sales in England in 2009.
- 3.5 The South East was the biggest producer of marine dredged sand and gravel recording 50% (4.99mt) of total sales in England. Of the crushed rock sales, the East Midlands recorded the highest sales equating to 36% (21.4mt) of total sales in England. The South East, by comparison, recorded sales of 1.9mt contributing permitted hard rock reserves, just 3.2% of total sales in England. No sales of crushed rock were recorded in the county during the LAA period.
- 3.6 The South East region was the biggest exporter of sand and gravel (including marine dredged), and was among the main importing regions for crushed rock.
- 3.7 The South East Aggregates Monitoring Report 2013 (AM 2013) reports on collated sales data for the South East Region, as at 31st December 2013. This reports that sand and gravel sales within the region declined to 5.4mt, which is 100,000 tonnes less than 2012⁹. It also notes that sales in the last 5 years have averaged 5.8mt which is a fall of 35% compared to 2004-2008 show in table 1.

Table 1 – Sales of Sand and Gravel (000 tonnes) and percentage change 2004-2013 for the SEEAWP area.

Year	Sales of All Sand and Gravel	Percentage Change on previous year
2004	10,405	-2%
2005	9,713	-6%
2006	8,804	-9%
2007	8,502	-3%
2008	7,229	-14%
2009	6,007	-18%
2010	6,180	3%
2011	5,824	-6%
2012	5,514	-5%
2013	5,399	-2%
Percentage Change 2004-2013		-48%

Source: Data taken from South East Aggregate Monitoring Report 2013, SEEAWP 2013

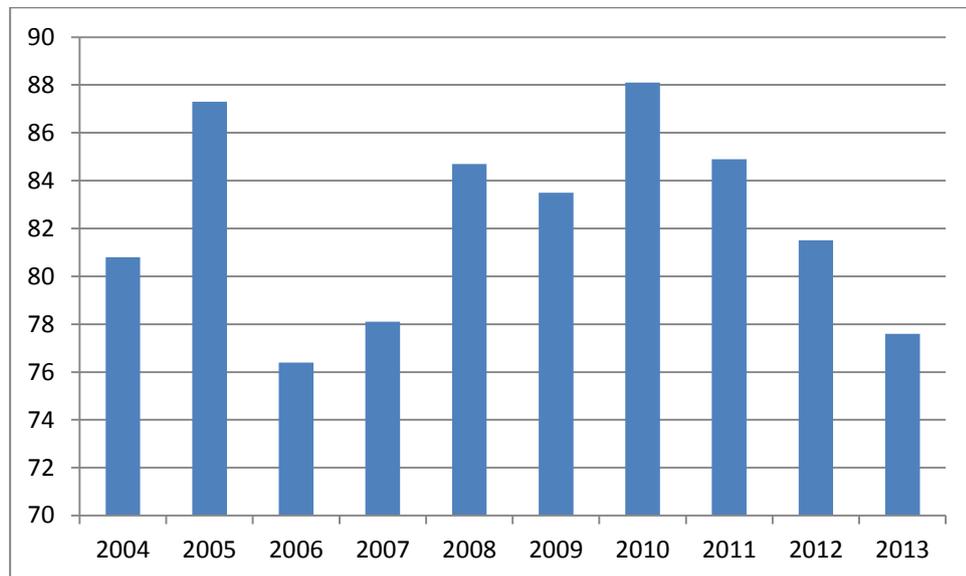
- 3.8 Reserves of land-won sand and gravel in the region at the end of 2013 were approximately 77.6mt, 4.mt less than 2012, with sales of sand and gravel in 2013

⁸ Collation of the Results of the 2005 Aggregate Minerals Survey for England and Wales, DCLG May 2007

⁹ South East Aggregates Monitoring Report 2013, SEEAWP, August 2014

exceeding the permitted permissions of extraction. Figure 1 shows reserves of sand and gravel in the South East for the ten year period 2004-2013.

Figure 1 – Reserves of Sand and Gravel (million tonnes) in the South East Region 2004-2013



Source: Data taken from South East Aggregate Monitoring Report 2013, SEEAWP 2013

4. Aggregates in Buckinghamshire

Geology

- 4.1 The most significant of mineral resources in Buckinghamshire are the sand and gravels of the Thames Valley, located in the south of the county. The thickest materials lying closest to the surface, and containing the lowest proportion of non-usable material are the most favoured, and the most economically viable materials for extraction in the county. Since the early 1990's, the main type of mineral production in Buckinghamshire has been the working of sand and gravel.
- 4.2 The MWCS identifies a Minerals Safeguarding Area in the south of the county, to safeguard the known economically viable sand and gravel deposits against sterilisation through non-mineral development. In addition, a study by the British Geological Survey (BGS) has identified an area of glaciofluvial sand and gravel in the north of the County¹⁰. Stating that:

“the deposits occur as irregular sheets or bodies within and above the till. The thickness of the deposits is highly variable and rarely exceeds 5m in eastern parts of Buckinghamshire except within channels. However, thicker deposits occur in north-western parts where deposits can reach 18m or more”

¹⁰ Mineral Resource Information in Support of National, Regional and Local Planning Buckinghamshire and Milton Keynes, BGS 2003 paragraph 2.1.1

Currently there is insufficient detailed information to be certain of the viability of these deposits, and there have been no expressions of interest from the minerals industry to extract mineral from this area. Until such time as further investigation of the deposits has been undertaken, this area is identified in the MWCS as an “Area of Search”. This area of sand and gravel is classified as superficial deposits, and is shown separately on a Buckinghamshire Geology Map, figure 3.

- 4.3 A small area of the Woburn Sands Formation occurs in east Buckinghamshire where it forms the most westerly part of an extensive outcrop that extends north-eastwards through Bedfordshire and into Cambridgeshire. Although the Woburn Sands are an important source of both construction and silica sands in Central Bedfordshire, the deposits in Buckinghamshire are thinner, and there are indications that it would make a less attractive source of construction sand¹¹. Although there is a single dormant site that has planning permission for the extraction of sand in this area, there are currently no active workings of the Woburn Sands in the County.
- 4.4 The County has chalk located in the southern half of the county, which lies in a north-east south-west direction. The White Chalk sub- group that is found in this region can be up to 131m thick and has layers of flint found within it. Chalk quarries have previously been worked for agricultural lime, and the flint obtained for both a localised building material and low grade aggregate, and may be found in a number of locations across South Buckinghamshire., However there is now only one working chalk quarry at Ivinghoe/Pitstone extracting small amounts of chalk. The county also has a vein of Grey Chalk, running south of a line approximately from Princes Risborough in the South-West, to north of Drayton Beauchamp, in the North-East. This mineral has a lower purity than White Chalk, with a lower CaCO₃ content, and is mixed with calcareous mudstone. With its high lime to clay ratio it makes it an ideal raw material for cement. This processed of working the lime and clay for the cement formerly occurred at the Pitstone quarry. No form of chalk is worked in the County as an aggregate mineral, and is only mentioned here by way of context.
- 4.5 The County has had a large permitted reserve of clay, resulting in the County historically having a large brick industry. Presently there is one operational brickworks at Bellingdon which uses ‘clay with flints’ to produce traditional Chiltern bricks. In addition, Calvert was one of the biggest bricks works in the UK but no longer produces bricks. The northern half of the County includes the ‘Peterborough Member’ of Oxford Clay, which is up to 26m thick and is made up of mainly greenish grey mudstone and between 5%-7% organic material.
- 4.6 Limestone in the County is a highly limited resource in occurrence, that can be only be found in the north-west of the County. There are presently no permitted active or inactive Limestone extraction sites within Buckinghamshire, although in the past Limestone has been won.

¹¹ Mineral Resource Information in Support of National, Regional and Local Planning Buckinghamshire and Milton Keynes, BGS 2003

4.7 Buckinghamshire does not have any significant hard rock resources, and is not a producer of crushed rock. All crushed rock consumed within the County is imported, and the County is reliant upon the ability of the exporting areas to be able to continue to supply this material. This ability to rely upon the supply of crushed rock from other Mineral Planning Authorities (MPAs) will need to be verified in an ongoing basis by “Duty to cooperate” engagement with the supplying MPAs.

Figure 2: Geological Map of Buckinghamshire showing Bedrock

The Geology of Buckinghamshire

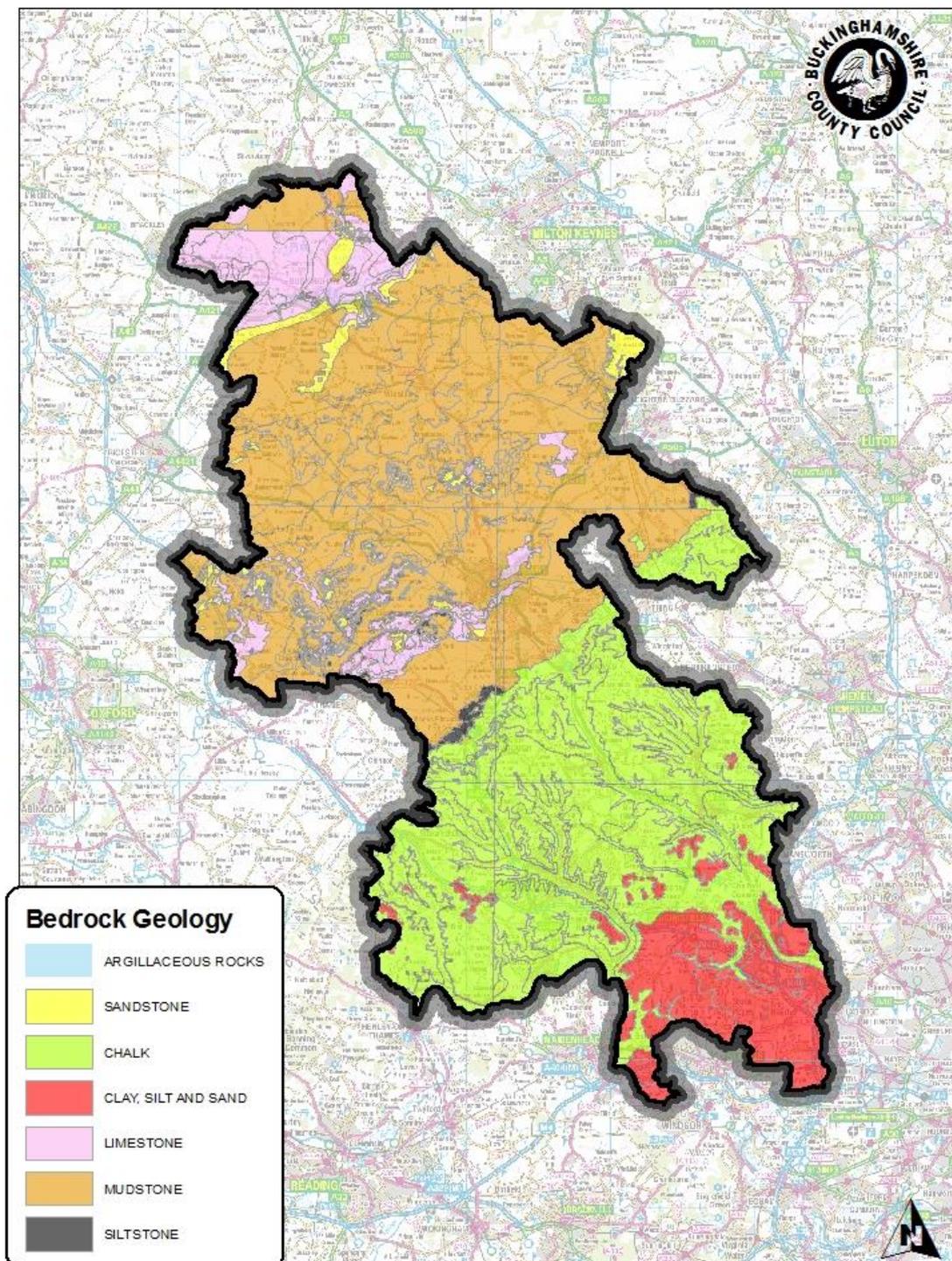
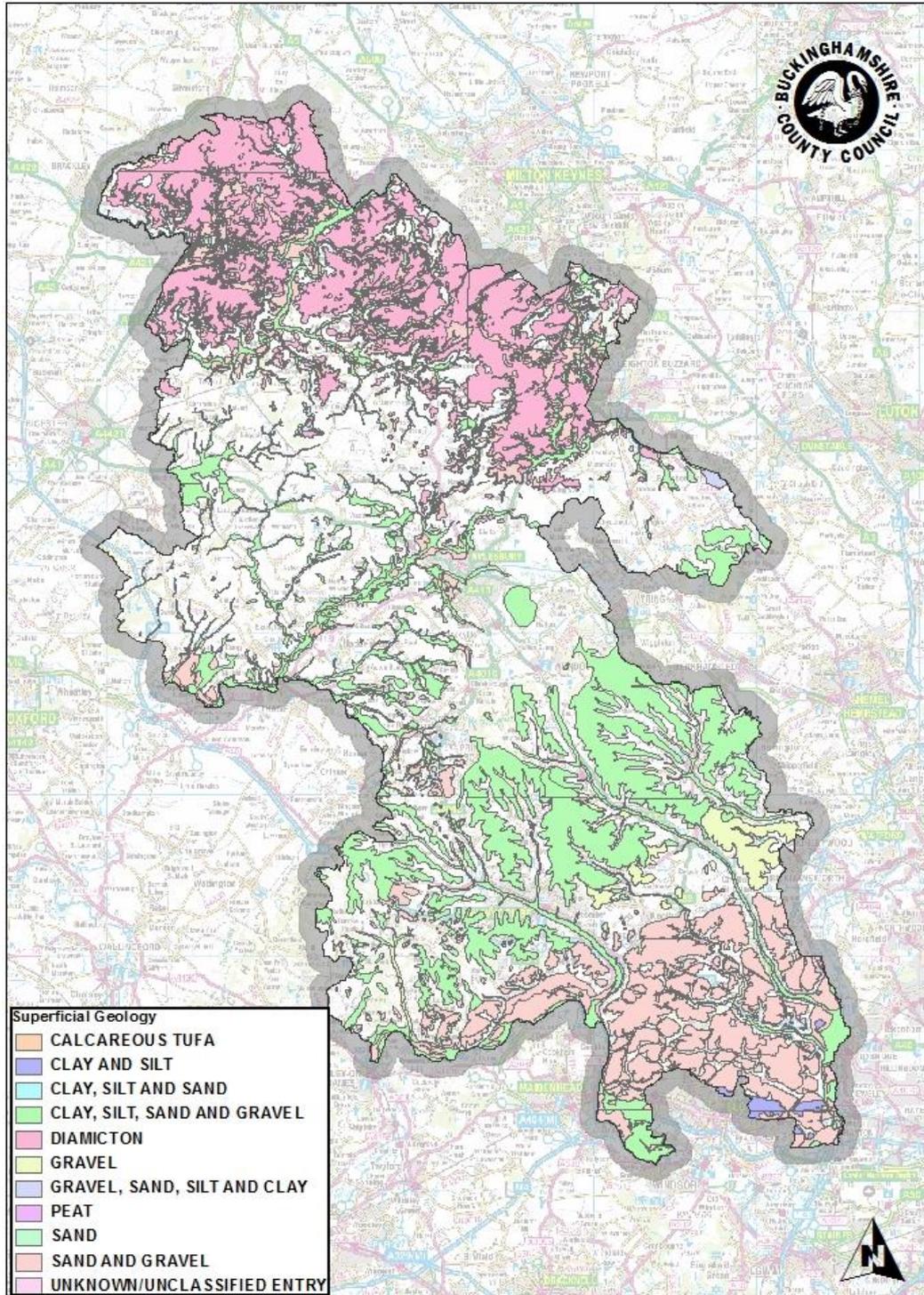


Figure 3: Geological Map of Buckinghamshire showing Superficial Deposits of Geology

The Geology of Buckinghamshire



Primary Aggregate

4.8 During 2013, there were seven sites in Buckinghamshire actively producing sand and gravel, with a further two sites holding valid planning permissions for mineral extraction which had either not yet been implemented, or which had temporarily ceased production and a further one site ceasing production. Sites with planning permission for mineral extraction are shown in Table 2.

Table 2 – Active and Inactive Sand and Gravel Extraction Sites in Buckinghamshire during 2013

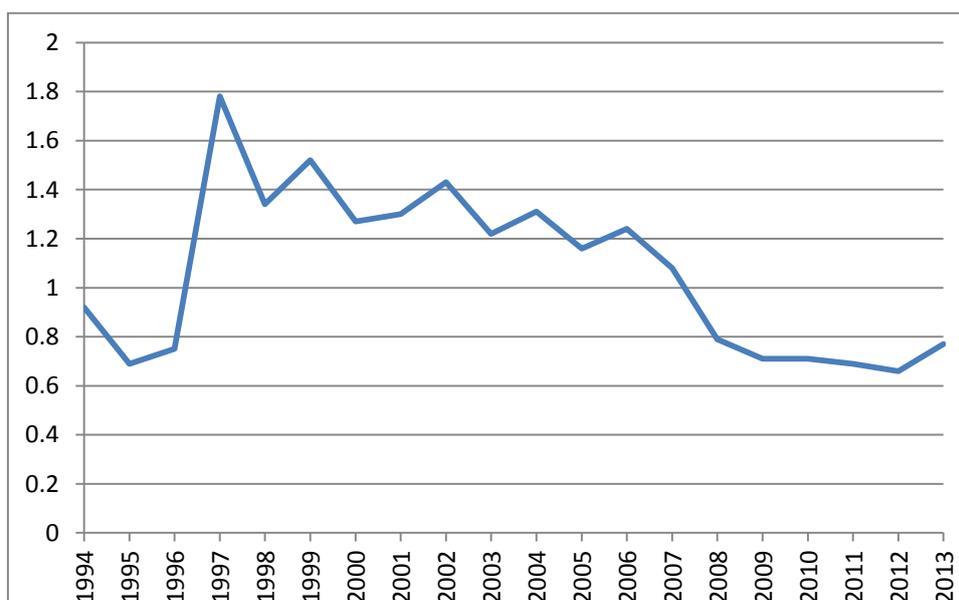
Active Sites	
Springfield Farm, Beaconsfield	Springfield Farm Ltd
Park Lodge Quarry, Iver Heath	Brett Aggregates
All Souls Farm, Wexham	Tarmac Southern
New Denham Quarry, Denham	Summerleaze Ltd
Berry Hill Farm, Taplow	Summerleaze Ltd
Wapseys Wood, Gerrards Cross	Tarmac Ltd and London Concrete Ltd
Harleyford Marina	Harleyford Aggregates
Inactive Sites	
Beechwood Nurseries, East Burnham	Summerleaze Ltd
Denham Park Farm, Denham	Harleyford Aggregates
Closed during 2013	
The Lea, Denham	Harleyford Aggregates

Sales

4.9 Sales of sand and gravel in Buckinghamshire between 1994 -2013 are shown in figure 4, demonstrating that during this 20 year period Buckinghamshire's annual production of aggregates has been variable. In 1997, production increased by 1 million tonnes to 1.78mt due to contributions from two major civil engineering projects in the south of the county¹². Since this peak in 1997, sales have overall declined. However reported sales as at the end of 2013 show a slight increase to approximately 0.77mt.

¹² Minerals and Waste Core Strategy Topic Paper 6: Minerals, Buckinghamshire County Council, August 2011

Figure 4– Sand and Gravel (million tonnes) in Buckinghamshire, 1994-2013



4.10 The total sales, figures 4, for the most recent ten years (2004-2013) sales of sand and gravel in Buckinghamshire are shown in Table 3. In addition to the ten year average provided in line with the approach detailed in the NPPF¹³, the average of the most recent three years (2011-2013) sales data is given for comparison purposes. The National Planning Practice Guidance encourages MPAs to look at the most recent three year sales in particular, as part of their assessment of relevant local information, to identify the general trend of demand as part of the consideration of whether it might be appropriate to increase supply¹⁴.

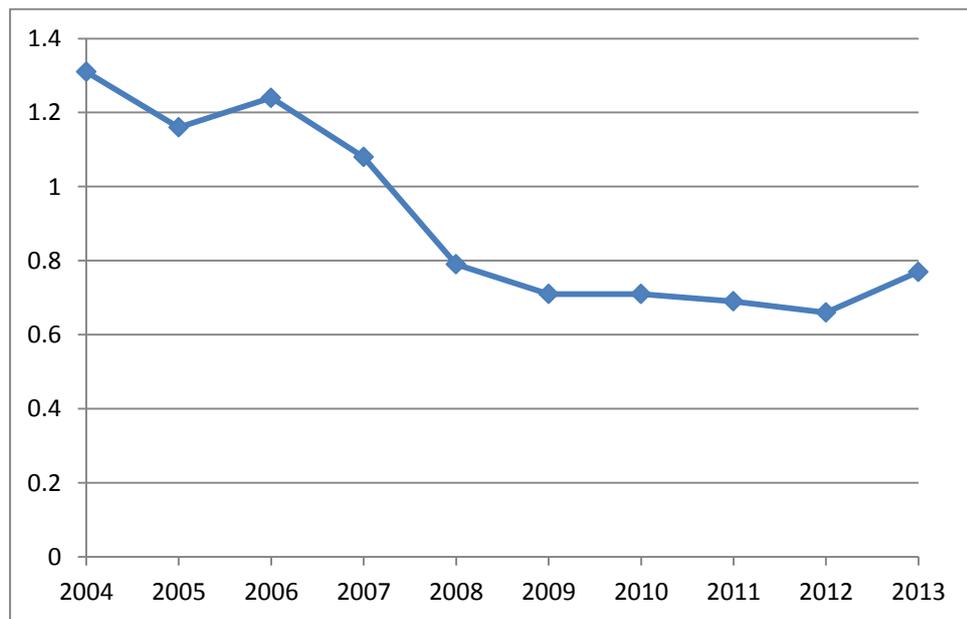
Table 3 - Sand and Gravel Sales in Buckinghamshire 2004-2013 (million tonnes)

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	10yr Ave	3yr Ave
Sales	1.31	1.16	1.24	1.08	0.79	0.71	0.71	0.69	0.66	0.77	0.91	0.71

¹³ National Planning Policy Framework, Paragraph 145, DCLG 2012

¹⁴ National Planning Practice Guidance, DCLG 2012, revised 6th March 2014

Figure 5 - Sales of Sand and Gravel in Buckinghamshire (million tonnes) 2004-2013



4.11 These sales figures demonstrate, for Buckinghamshire, an overall decline in sales of primary aggregate over the ten year period 2003-2012 by approximately 41%.

Reserves

4.12 Table 4 shows the amount of permitted sand and gravel reserves within the county over the past 5 years. These derived from the minerals returns submitted annually by minerals operators as part of the annual Aggregate Monitoring Survey. Information relating to permitted reserves may vary year on year, since mineral site operators may carry out site surveys and consequently revise their estimates of minerals reserves at their individual sites.

Table 4 – Permitted Reserves of Sand and Gravel in Buckinghamshire (2009-2013)

Year	2009	2010	2011	2012	2013
Permitted Reserve	12,788,600	10,917,400	10,429,000	10,049,244	9,143,356

4.13 As at 31st December 2013 estimated permitted reserves of sand and gravel in Buckinghamshire totalled approximately 9.14mt. Based on the annual supply requirement of 1.09mtpa included in the MWCS, this equates to a current landbank sufficient for 8.3 years production.

4.14 During the Local Aggregate Assessment monitoring period there have been planning applications to extend New Denham Quarry to extract 280,000 tonnes of sand and

gravel, and at The Lea for an extension in the time period allowed for extraction, which have both been granted. The Lea, in the beginning of January 2013, applied to extend the permitted end date of mineral extraction to the end of June 2013 and for the restoration to be completed by the end of December 2013. At the end of the monitoring period there were two planning applications for extending operational periods, at Park Lodge Quarry and All Souls Farm. These applications remained undetermined at the end of the monitoring period, while an application for new quarry at George Green (with potential reserves of 900,000 tonnes) was also awaiting a decision.

Imports and Exports

- 4.15 AM 2009 indicated that the end destination for the highest proportion (0.42mt) of sand and gravel sold in Buckinghamshire was within the sub-region Buckinghamshire and Milton Keynes (59%), with 25% (0.18mt) exported to other destinations in the South East. The destination of the remaining 15% (0.11mt) is not known, other than it being outside of the South East region. The main destinations for land-won sand and gravel exported from the South East region as a whole were London (58%), the South West (24%) and the East of England (9%).
- 4.16 AM 2009 collates data for Buckinghamshire and Milton Keynes as one “sub-region”, and indicates that as a sub-region, sales of sand and gravel in Buckinghamshire and Milton Keynes in 2009 were 925,000 tonnes of which 404,000 tonnes were exported aggregate is shown in Table 5, demonstrating that the sub-region is a net exporter of sand and gravel. Of the 0.92mtpa total primary aggregate consumed within the sub-region, 26% comprised imported sand and gravel and 17% (0.16mtpa) comprised imported crushed rock¹⁵.

Table 5 – Primary Aggregates Imports to and Exports from Buckinghamshire and Milton Keynes 2009 (tonnes)

	Imports in Buckinghamshire and Milton Keynes	Exports from Buckinghamshire and Milton Keynes	Balance
Sand and Gravel	242,000	404,000	-162,000
Crushed Rock	160,000		+160,000
Total	402,000	404,000	-2,000

- 4.17 The best available information from AM2009 suggests that Buckinghamshire imports both sand and gravel and crushed rock from neighbouring authorities. Sand and gravel is imported from Northamptonshire, Oxfordshire, Hertfordshire, and Central Bedfordshire, among other Authorities. In addition, there are exports of sand and gravel, which according to the last available information (AM 2009) were nearly equal with imports

¹⁵ Collation of the Results of the 2009 Aggregate Minerals Survey for England and Wales, DCLG October 2011

4.18 Buckinghamshire has only one rail aggregate depot, and data concerning its sales cannot be published as a standalone figure in order for it be confidential. The way in which data is allowed to be published is if the data from the depot has to be amalgamated into groups. Note that this situation is the same for other Mineral Planning Authorities, and that in the South East Aggregate Monitoring Report, 2013, data on rail served aggregates depots for Buckinghamshire has been amalgamated with Milton Keynes and Oxfordshire. These are; Thorney Mill Road in Buckinghamshire, Full Goods Yard in Milton Keynes and Appleford Sidings, Oxford Road and Hennef Way in Oxfordshire.

Table 6 – Sales of Aggregate at South East England Rail Depots (000 tonnes) 2004-2013

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Berks and Hants	2,299	1,762	1,737	1,935	1,369	1,094	1,054	1,215	1,222	1,090
Buckinghamshire, Milton Keynes and Oxfordshire	689	790	791	887	733	447	729	659	552	762
Kent and Medway	582	575	572	594	581	414	356	446	313	465
Surrey and West Sussex	587	557	557	669	657	621	888	949	1,000	1,192
Total	4,157	3,685	3,657	4,085	3,340	2,576	3,027	3,269	3,087	3,509

Source: Data taken from South East Aggregate Monitoring Report 2013, SEAWP 2013

Secondary and Recycled Aggregates

4.19 Government guidance¹⁶ requires the LAA to consider all aggregate supply options, which include secondary and recycled aggregate. Secondary aggregates are often materials from industrial by-products, an example of which is ‘incinerator bottom ash’ (IBA) from the Energy from Waste (EfW) treatment process. This can be used in, or form parts of, construction materials, such as for building foundations, or roads. There are currently no known sources of secondary aggregates within Buckinghamshire. During the year 2012 planning permission was granted for an EfW facility at the Calvert landfill site in the north of the county, which includes an IBA treatment facility.

4.20 Currently, at the time of drafting, it is anticipated that the EfW facility being constructed at Calvert will become operational in early 2016. It is expected to thermally manage up to 300,000 tonnes of residual waste per annum, and produce 22MW of electricity. It proposes that 25% of its waste output will be exported from site as secondary aggregate, around 75,000 tonnes per annum. However as this is only a proposed figure submitted during the planning application planning process, no definitive figure can be given here.

4.21 Recycled aggregates are materials that are recovered from construction, demolition, and excavation activities, primarily at construction sites, and which can be reprocessed into other suitable building materials. An increase in the use of recycled aggregates in construction is consistent with their sustainable management, and is in line with the waste

¹⁶ National Planning Practice Guidance, DCLG 2012, revised 6th March 2014

hierarchy. Baseline¹⁷ information gathered in 2007/08 indicated that Buckinghamshire had an existing capacity of 422,000 tonnes for recycling construction and demolition waste, and that an additional 280,000 tonnes capacity would be required by 2020.

- 4.22 Most of the known aggregate recycling in Buckinghamshire takes place at temporary facilities, often located at sand and gravel pits, although a number of sites also benefit from permanent planning permissions. The difficulties in gathering information relating to the movements of construction and demolition waste, and the production of recycled aggregate, are widely acknowledged by other Minerals and Waste Planning Authorities. In Buckinghamshire, information relating to facilities which manage secondary and recycled aggregates consists largely of data sourced through the annual monitoring survey. As reported in AM 2012¹⁸, response rates to the survey for secondary and recycled aggregates are low, and that the data was incomplete and must be treated with caution.
- 4.23 Minerals returns for 2013 indicate that there were six active sites producing approximately 166,435 tonnes of recycled aggregate in 2013 and 3 inactive sites within Buckinghamshire. It also indicates that there are 150,200 tonnes of existing capacity for the production of recycled aggregate. The returns for 2012 indicated that there were ten active sites in Buckinghamshire which produced approximately 72,500 tonnes of recycled aggregate and the ten active sites and three inactive sites had a capacity 909,000.
- 4.24 Given the difference between the two years sets of data, and the problems with the collection of reliable data concerning recycled aggregates, more information about existing construction and demolition waste recycling capacity needs to be gathered. It is concluded that it is not realistic at present to seek to generate any long term trends in their production within Buckinghamshire. More and better survey data is clearly needed with regards to recycled aggregates. Table 7 lists Permitted Aggregates Recycling Facilities in Buckinghamshire, and indicates their maximum input capacity. However it should be noted that not all Construction Demolition and Excavation waste processed will give rise to aggregates, and in addition most of these input capacity figures are derived from EA Permit brackets, which grossly overestimate the productive capacity of the facility.

Table 7: Permitted Recycled Aggregates facilities

Site address	Permitted Input capacity
Wapseys Wood, Gerrards Cross	No available information
Chilton View Nursery, Stoke Mandeville	25,000 tonnes per annum (according to EA Permit)
Summerleys Farm, Princes Risborough	74,999 tonnes per annum (according to EA Licence)
Thorney Mill Road, West Drayton	20,000 tonnes per annum coated roadstone
Denham Quarry, Uxbridge	250,000 tpa (according to EA Licence)

¹⁷ Minerals and Waste Core Strategy Topic Paper 5: Waste, Buckinghamshire County Council, August 2011

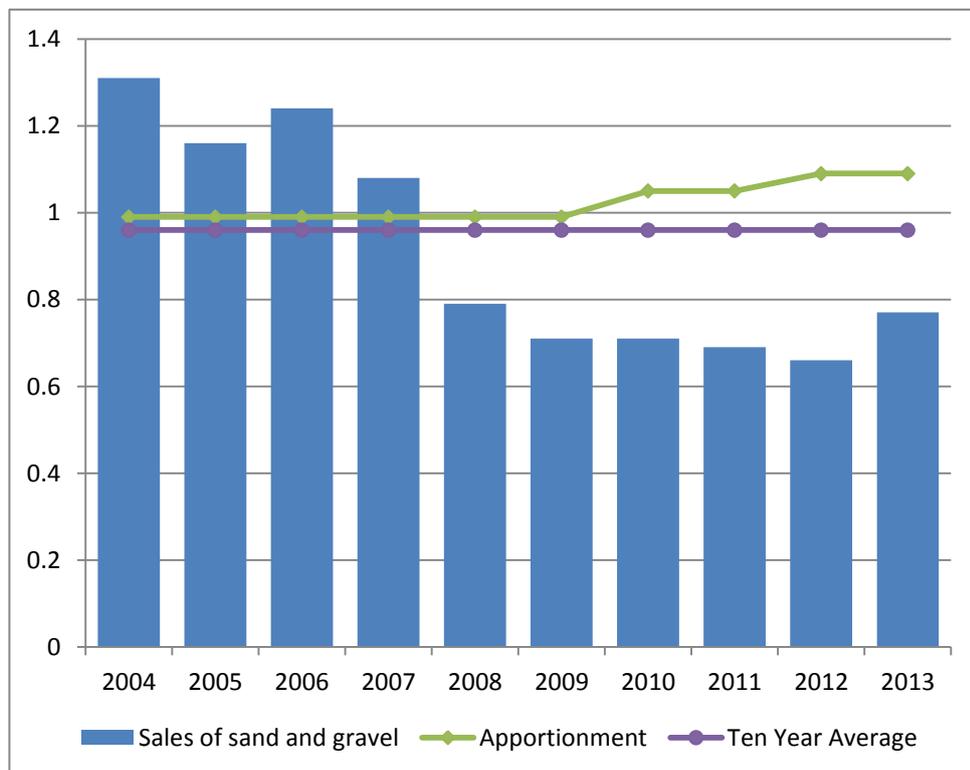
¹⁸ South East Aggregates Monitoring Report 2011, SEAWP 2013

Slough Recycling, Wexham	249,999 tpa (according to EA licence)
Unit 13 Bison Industrial Estate, Iver	150 tonnes per day

5. Aggregate Supply, Demand and Local Considerations

- 5.1 The MWCS used an annual supply requirement of 1.09mtpa based on a ten year average of sales data for the period 2001-2010. However the MWCS acknowledged that the appropriate level of annual supply may require revision, dependant on the findings of the LAA. Policy CS4 refers to “...prevalent agreed local annual supply requirement for Buckinghamshire”. According to the NPPF, the LAA is intended to provide important information to enable Mineral Planning Authorities to plan for a steady and adequate supply of aggregates, and specifically to inform the preparation of a Minerals Local Plan.
- 5.2 Figure 6 shows the sales data for sand and gravel in Buckinghamshire for the most recent ten year period 2004-2013 against apportionment over the same period, and the ten year average sales data. This shows that for the last five years, sand and gravel sales have not met the level of apportionment given to the county through the disaggregation of the National and Regional Guidelines. However, with this year’s increase in sales the gap is closing, with the shortfall only 0.32mt compared to last year of 0.43mt.

Figure 6 – Comparison of past sand and gravel production with apportionments and “ten year average” (million tonnes) 2004-2013



- 5.3 Use of sales data over the most recent ten year period is considered to be a balanced indicator of required provision, since it includes intervals of relatively high and low economic activity, and therefore evens out the relative peaks and troughs. However, in accordance with the NPPF, MPAs are also required to give consideration to any “local factors” that could affect aggregate supply and demand.

Economic Downturn

- 5.4 Table 8 shows the existing sand and gravel sites in Buckinghamshire which will continue to contribute towards production of aggregates in the county, and the time limit for completion of final restoration, as given in the current planning permission for each site. Recently, a number of planning applications for extending the operational lifetime of existing sites have been submitted to the Council, predominantly citing the continuing economic downturn and consequent reduction in output from sites as the main reason for needing additional time to complete extraction and restoration.

Table 8 – Completion Dates for Permitted Sand and Gravel Sites in Buckinghamshire

Site	End Date on Planning Permission	Restrictions
All Souls Farm Quarry, Slough	30/06/2013	No more than 60 vehicle movements per day
The Lea Quarry, Denham	31/12/2013 (closed during monitoring period)	
Harleyford Marina, Marlow	27/09/2014	No more than 30 vehicle movements per day
Berry Hill Farm, Taplow	01/10/2015	No more than 100 vehicle movements per day
Park Lodge Quarry, Iver	31/12/2015	No more than 146 vehicle movements per day
Wapseys Wood, Gerrards Cross	31/12/2017	No more than 1.1 million tonnes per annum of minerals and waste into and out of site
Beechwood Nurseries, East Burnham	31/12/2020	No more than 100,000 tonnes per annum
New Denham Quarry, Denham	23/06/2021	No more than 296 vehicle movements per day

Springfield Farm Quarry, Beaconsfield	30/09/2029	No more than 250,000 tonnes per annum
<i>Denham Park Farm, Denham Green</i>	<i>31/08/2031</i>	<i>No more than 124 vehicle movements per day Monday to Friday. No more than 60 vehicle movements per day on Saturday</i>

Sites in italics are inactive sites, site with planning permission but are not extracting at during this time

Output restrictions

- 5.5 It is also noted that among the permitted sand and gravel quarries in the county, the quarries shown in Table 7 were subject to planning conditions or legal agreements which restrict the maximum tonnage of mineral that can be exported from a site on an annual basis during this monitoring period. Such restrictions effectively limit the productivity at these sites, and consequently the contribution that they can make towards the annual supply requirement.
- 5.6 It should be noted that operational sand and gravel sites are predominantly in the south of the County, whereas there are believed to be considerable cross border flows from neighbouring Mineral Planning Authorities- Milton Keynes, Northamptonshire, and Central Bedfordshire in the north, Hertfordshire to the east, Oxfordshire to west, and West Berkshire, Windsor and Maidenhead, and Slough to the south. (See Table 5). Given how connected the County is with neighbouring MPAs, in respect of the production and distribution of aggregates, then any restrictions on production do not constrain the potential to supply the consuming market areas. Buckinghamshire is part of a wider and well connected area, in respect of both the production and consumption of sand and gravel aggregates. It is therefore reasonable to view the 10 year sales trend as an appropriate method of monitoring. The forthcoming “Replacement Minerals and Waste Local Plan” will include the allocation of ‘Preferred Areas’ for mineral extraction, so as to focus mineral development to where mineral extraction will cause the least harm overall, and achieve wider sustainability and environmental objectives. Policy CS5 of the MWCS sets out the criteria that will be used to assess preferred areas for sand and gravel extraction. Further information on local environmental constraints and the proposed appraised process for the identification of preferred areas can be found in topic papers 6¹⁹ and 7²⁰, submitted in support of the MWCS.
- 5.7 However it is possible that planning applications for minerals extraction may come forward prior to adoption of the “Replacement Minerals and Waste Local Plan”. In this instance, proposals will be tested against the “Saved” policies in the Buckinghamshire Minerals and Waste Local Plan 2004-2016; as well as policy CS4, and the criteria for selection of Preferred Areas set out in Policy CS5 of the MWCS.

¹⁹ Minerals and Waste Core Strategy Topic Paper 6: Minerals, Buckinghamshire County Council, August 2011

²⁰ Minerals and Waste Core Strategy Topic Paper 7: Buckinghamshire Spatial Context, Buckinghamshire County Council, March 2011

6. Future Provision of Sand and Gravel

- 6.1 In order to ensure a steady and adequate supply of primary aggregate, MPAs are required to ensure that there is a stock of mineral planning permissions which will satisfy the annual supply requirement for at least seven years²¹. Policy CS4 of the MWCS states that:

“Adequate and steady provision will be made to maintain a landbank of sand and gravel equivalent to at least 7-years’ worth of supply over the period to 2026, based on the prevalent agreed local annual supply requirement for Buckinghamshire.”

- 6.2 The MWCS used an average of ten years sales data (2001-2010) as a basis for an annual supply requirement of 1.09mtpa. On the basis permitted reserves of 10.9mt (at 31st December 2010) equated to just over 10 years’ worth of supply and the additional provision for the plan period was calculated as follows:

Current Landbank (December 2010): 10.9mt
Total Landbank required 2011-2026: 1.09mt x 16 years = 17.4
Additional Provision Required: 17.4 – 10.9 = 6.5mt

- 6.3 These are a number of options for considering what future level of provision of sand and gravel should be made within Buckinghamshire. These are discussed below.

Option I

- 6.4 If an annual supply requirement of 1.09mtpa was adopted in the Local Aggregate Assessment (LAA), as used in the Minerals and Waste Core Strategy, this leads to a minimum landbank requirement of 7.63mt to provide for a landbank sufficient for 7 years production. However sales of primary aggregate in Buckinghamshire have been declining, with the last three years being approximately 380,000tpa below the 1.09mtpa supply requirement. A continued decline in sales will result in the permitted reserves lasting for a longer period. However an increase in sales was seen this year, which will have affected the rate of depletion of permitted reserves, and if that trend continues then this could lead to an even more rapid depletion of permitted reserves.
- 6.5 Data gathered for the AM 2013 survey indicates that as at 31st December 2013 there were approximately 9.14mt permitted reserves of sand and gravel within Buckinghamshire, which equates to 8.3 years landbank supply based on an annual supply requirement of 1.09mtpa. For the remainder of the plan period from January 2014 until 2026, (13 years), the additional provision required for the remaining plan period is therefore 5.03mt.

²¹ National Planning Framework, DCLG 2012

Option 2

- 6.6 If the sand and gravel supply requirement is based on the ten year average of sales data for the period 2004 – 2013, then it would be 0.91mtpa. If this level of requirement is adopted in the LAA then it would equate to a minimum requirement of 6.37mt, in order to provide for a landbank sufficient for 7 years production. Based on this supply requirement, the current landbank would equate to 10.04 years supply. In order to maintain a landbank of sand and gravel for the period from January 2014 up to 2026 would require $13 \times 0.91\text{mt} = 11.83\text{mt}$. Given that as of the 31st January 2013 there were 9.14mt of sand and gravel already permitted, then the additional provision would be 2.69 mt.
- 6.7 Table 9 sets out calculations for the sand and gravel landbank based on different apportionment rates used include:
- the MWCS apportionment rate
 - the most recent ten year average of sales data based on the period 2004 – 2013
 - the average of the last three years sales data

Table 9 – Sand and Gravel Landbank in Buckinghamshire as of 31/12/2013, based on alternative apportionments.

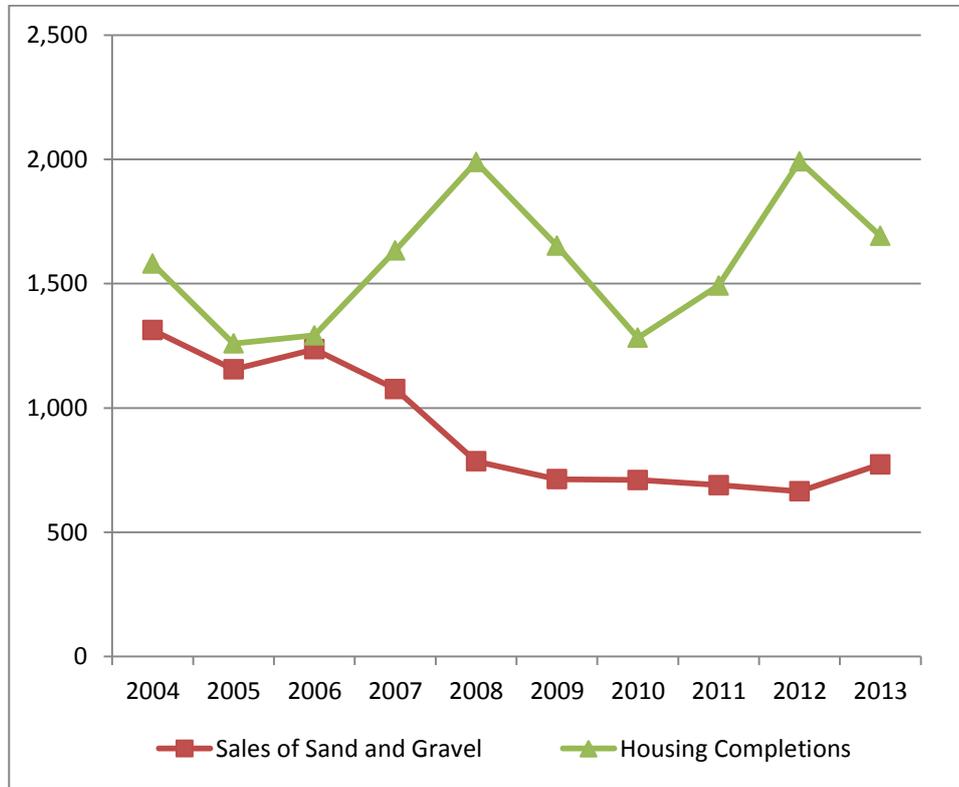
Permitted reserves (mt) at 31/12/2013	9.14	
MWCS apportionment rate (mtpa)	1.09	8.3 Years Supply
Rolling average of ten years sales data 2004 – 2013 (mtpa)	0.91	10.04 Years Supply
Average of three years sales data (mtpa)	0.70	13.05 Years Supply

Adjustments for Local considerations

- 6.8 In 2013, three District Councils in the County have made provision for housing in their Local Plans in line with the now revoked South East Plan, and only Aylesbury Vale District remains to progress a Local Plan. The draft “Vale of Aylesbury Plan Strategy” was withdrawn in February 2014 on the advice of the planning inspector. The District Council are now working on a new plan: “Vale of Aylesbury Local Plan (VALP)”. Table 10 examines housing completions in the County and by District over the previous ten years. Figure 7 compares the number of housing completions in the County to the Sand and Gravel sales for the past ten years. While nationally there may be a relationship between housing completions and sand and gravel sales, there is no obvious correlation between housing completions and sand and gravel sales within Buckinghamshire, during this period in time. While housing completions within Buckinghamshire have varied over time, the sales of sand and gravel have steadily been declining. However, during the period 2004-2006 there does appear to be some correlation between the two. It would be prudent to

continue to re-examine trends in sand and gravel sales and housing completions, again in future years.

Figure 7 – Comparison of the past ten years Housing Completions and sales of Sand and Gravel (000 tonnes) within Buckinghamshire.



6.9 The largest major infrastructure project that may take place in the next few years is the High Speed 2 rail link. This is intended to provide a high speed rail link between London, Birmingham, and Manchester. It is not intended to commence construction until 2017. In addition, there are considerable uncertainties concerning its likely demand for construction materials. It is not possible to estimate the likely requirements of the HS2 project for locally arising construction materials, given the close proximity of other aggregate producing Mineral Planning Authorities to the line of the HS2 project. In addition, there is the East West Rail project which is due to begin with preliminary works in 2014. Its requirement for aggregate is much less than that of HS2, and they may not be sourced entirely, or at all, from within Buckinghamshire. It will be a commercial decision as to where its contractor's source construction materials at the time of any construction works take place. Finally, other local infrastructure projects within the County are relatively insignificant in respect of their likely demand for aggregates, in the immediate future.

6.10 The annual Local Aggregate Assessment helps to achieve policy CS4 of the Buckinghamshire Minerals and Waste Core Strategy by monitoring the reserves of sand

and gravel, so as to ensure that a landbank of permitted reserves is available for 7 years. In addition, policy CS5 sets out the considerations relevant in identifying Preferred Areas for future sand and gravel extraction, and policy CS6 contains considerations for the establishment of permanent facilities for the recycling of construction and demolition waste. The MWCS makes considerable reference to furthering its policies within a forthcoming Mineral Local Plan, and a Waste Local Plan. However Buckinghamshire County Council will combine these two putative Local Plans, and has started work on a “Replacement Minerals and Waste Local Plan”. This will include a “call for sites”, and lead to preferred areas for mineral extraction being identified in policy.

- 6.11 Table 10 illustrates the projected reserves of sand and gravel based on each of the apportionment options shown in table 9. This indicates that the earliest that the landbank would fall below the existing 7.63mt requirement would be 2015, and the earliest it would fall below a 6.72mt requirement would be 2016. Should sales in 2014 be greater than the increase from 2012 to 2013 existing reserves might not even last as long as long as to 2015.

Table 10 – Housing Completions across Buckinghamshire Districts 2003 – 2013

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Aylesbury Vale	934	667	643	616	822	744	795	755	1103	934	8,013
Wycombe	357	214	300	607	611	625	304	575	514	223	4,330
Chiltern	235	207	216	215	178	89	74	80	177	309	1,780
South Bucks	54	171	133	195	378	194	109	82	128	226	1,670
County Total	1,580	1,259	1,292	1,633	1,989	1,652	1,282	1,492	1,922	1,692	15,793

Source – District Councils Annual Monitoring Reports, data taken for April - March each year

Table 11 – Remaining Permitted Reserves to 2026 against Annual Production Rates of 1.09mtpa, 0.96mtpa and 0.70mtpa

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Remaining Reserves assuming 1.09mtpa MWCS Apportionment Rate	9.14	8.05	6.96	5.87	4.78	3.69	2.60	1.51	0.42	0	0	0	0
Remaining Reserves assuming 0.91mtpa average of the past ten years sales data	9.14	8.23	7.32	6.41	5.50	4.59	3.68	2.77	1.86	0.95	0.43	0	0
Remaining Reserves assuming 0.70mtpa average of the past three years sales data	9.14	8.43	7.72	7.01	6.30	5.59	4.88	4.17	3.47	2.76	2.05	1.34	0.66

7. Conclusion

- 7.1 There are a number of reasons why Option 2, concerning the reliance on a 10 year sales trend, remains the most convincing Option to adopt, and with which to inform the forthcoming “Replacement Minerals and Waste Local Plan”. Firstly, there is no obvious relationship between sand and gravel sales in the County and housing completions. Secondly there are strong elements of the supply of sand and gravels from neighbouring Mineral Planning Authorities. In the north, there are cross boundary movements from Milton Keynes and Northamptonshire, while in the south there are exchanges from Oxfordshire, Hertfordshire, and the unitary MPAs in the former Berkshire County. Buckinghamshire cannot therefore be entirely viewed in isolation, since it is well connected with other adjacent aggregates producing areas.
- 7.2 Considering the ten year sales trend of sand and gravel from within Buckinghamshire the County has a landbank sufficient for 10.04 years at 31/12/2013. However this will decline over time, and only part of one of the Preferred Areas in the Minerals and Waste Local Plan adopted in 2006 remains without planning permission, and unworked. It is prudent therefore to identify suitable areas for future sand and gravel extraction, as part of the Replacement Minerals and Waste Local Plan (RMWLP). The RMWLP will also revisit existing Saved policies, and seek to bring forward new policies.
- 7.3 The forthcoming “Replacement Minerals and Waste Local Plan” will allocate new Preferred Areas for sand and gravel working in the county for a 15 year period, to 2033. However, this new Plan will need to be reviewed regularly throughout its life, and may be partially replaced. It is acknowledged that future Local Aggregate Assessments may lead to the need to identify more site allocations in the future.