Central Bedfordshire, Bedford Borough and Luton Borough Councils'

Local Aggregate Assessment

2014

Central Bedfordshire Council, Bedford Borough Council and Luton Borough Council

working together

20th October 2014

Contact us

Write to us:

Minerals and Waste Planning Team,
Shared Service for Central Bedfordshire, Bedford Borough and Luton Borough Councils,
Priory House,
Monks Walk,
Chicksands,
Shefford,
Bedfordshire,
SG17 5TQ

Telephone us:

Natalie Chillcott 0300 300 4891

Email us:

mwplans@centralbedfordshire.gov.uk

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Section one: Background

Introduction

Aggregate Minerals are needed to sustain the economy, providing the raw materials for built development, construction, maintenance and utilities. However, they are a finite resource and can only be worked where they are found. It is therefore essential that they are used prudently. As stated in the National Planning Policy Framework (NPPF paragraph 142):

"Minerals are essential to support sustainable economic growth and our quality of life. It is therefore important that there is a sufficient supply of material to provide the infrastructure, buildings, energy and goods that the country needs. However, since minerals are a finite natural resource and can only be worked where they are found, it is important to make best use of them to secure their long-term conservation."

The Government recognises the importance of maintaining sufficient aggregate production and as such has set a requirement for Mineral Planning Authorities (MPAs) to produce a Local Aggregate Assessment (LAA) on an annual basis. The purpose of the LAA is to monitor aggregate production and facilitate the steady and adequate supply of aggregates.

This is the second LAA produced on behalf of Central Bedfordshire, Bedford Borough and Luton Borough Councils. It should be noted that whilst this LAA relates to the Plan area, mineral extraction only takes place within the Bedford Borough and Central Bedfordshire administrative areas.

The document meets the requirements of Chapter 13, paragraph 145 of the NPPF and the DCLG 2012 Technical Guidance as:

- It includes a forecast of demand for aggregates based on existing reserves and the agreed apportionment.
- It assesses whether a 7 year landbank for sand and gravel has been met and whether it is likely to be maintained in the future.
- It provides information on existing sites, strategic sites and the geology of the area.
- It considers other potential sources of aggregates including recycled and secondary aggregates, and
- Looks at the importation of aggregates not found within the Plan area.

The NPPF (paragraph 143) also requires Local Planning Authorities (LPAs) to take account of the contribution that substitute, secondary and recycled minerals waste can make to the supply of materials, before considering extraction of primary materials.

Geology of Central Bedfordshire, Bedford Borough and Luton Borough

The Plan area has a rich and varied geology. The most significant minerals found in the Plan area are:

- River Valley/Glacial Sand and Gravel
- Woburn Sands
- Chalk
- Oxford Clay
- Gault Clay
- Cornbrash Limestone

Due the economic importance of these minerals six mineral safeguarding areas (MSAs) have been identified in the Minerals and Waste Local Plan: Strategic Sites and Policies document which was adopted in January 2014 (MWLP: SSP – The Plan). These areas are shown on the MWLP:SSP Policies Map. These MSAs, in conjunction with Mineral Strategic Policy MSP11: Mineral Resource Assessment will ensure that potentially important minerals are safeguarded from needless sterilisation by surface development. A map showing the geology of the Plan area is shown on page 5 while the extent of the MSAs is shown on page 6.

A more detailed version of the MSA map is available to download from the CBC website:

http://www.centralbedfordshire.gov.uk/planning/minerals-and-waste/development-framework.aspx

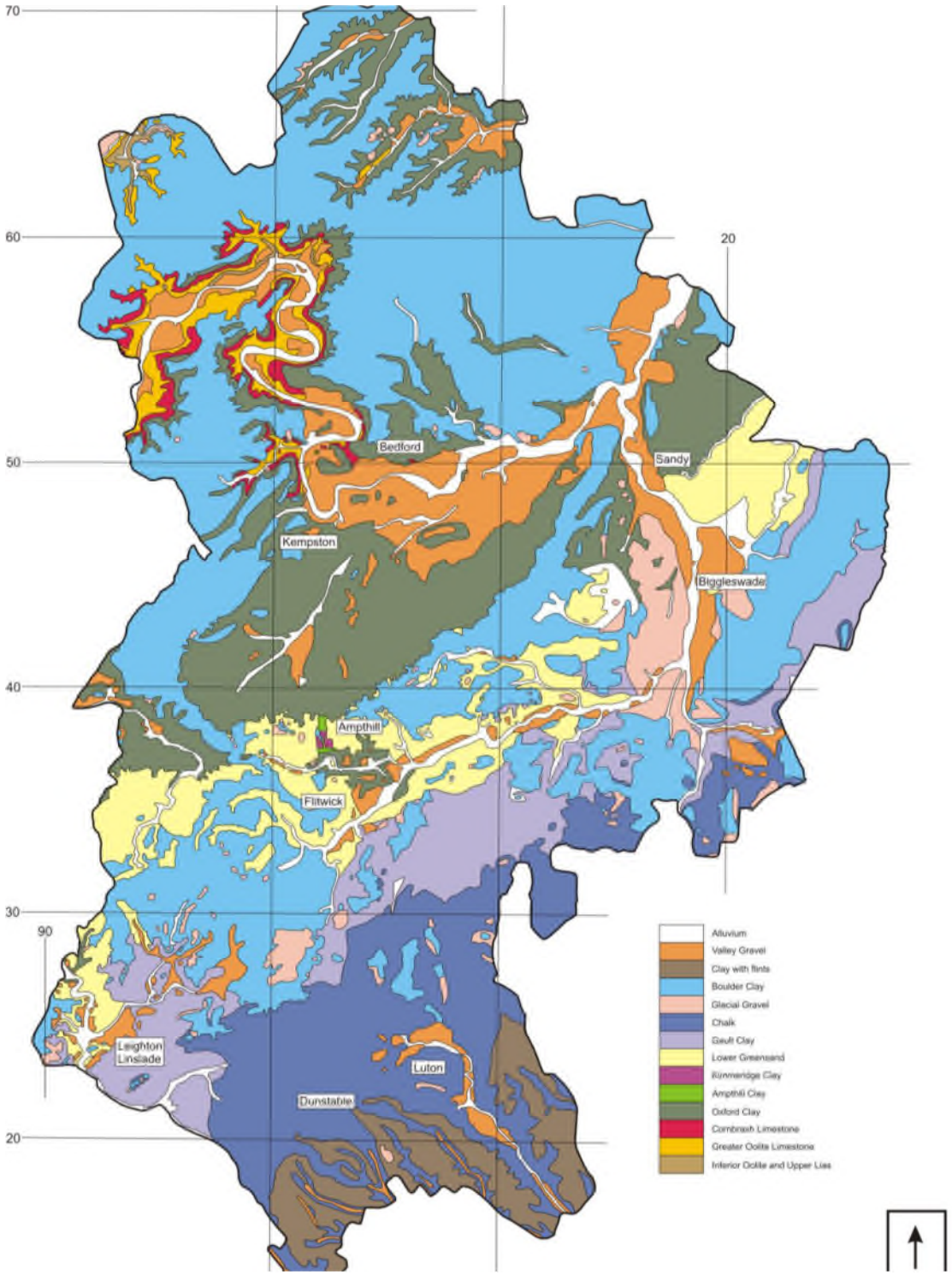
River Valley/ Glacial Sand and Gravel
The Plan area contains significant reserves of aggregate sand and gravel, the majority of which originate from the river valley/glacial sand and gravel deposits found south of the A421 and west of the A1.

Woburn Sands
The Woburn Sands which stretch diagonally across the Plan area also provide an important source of aggregate sand, and in the area near Leighton Buzzard, silica sand (specialist sand).

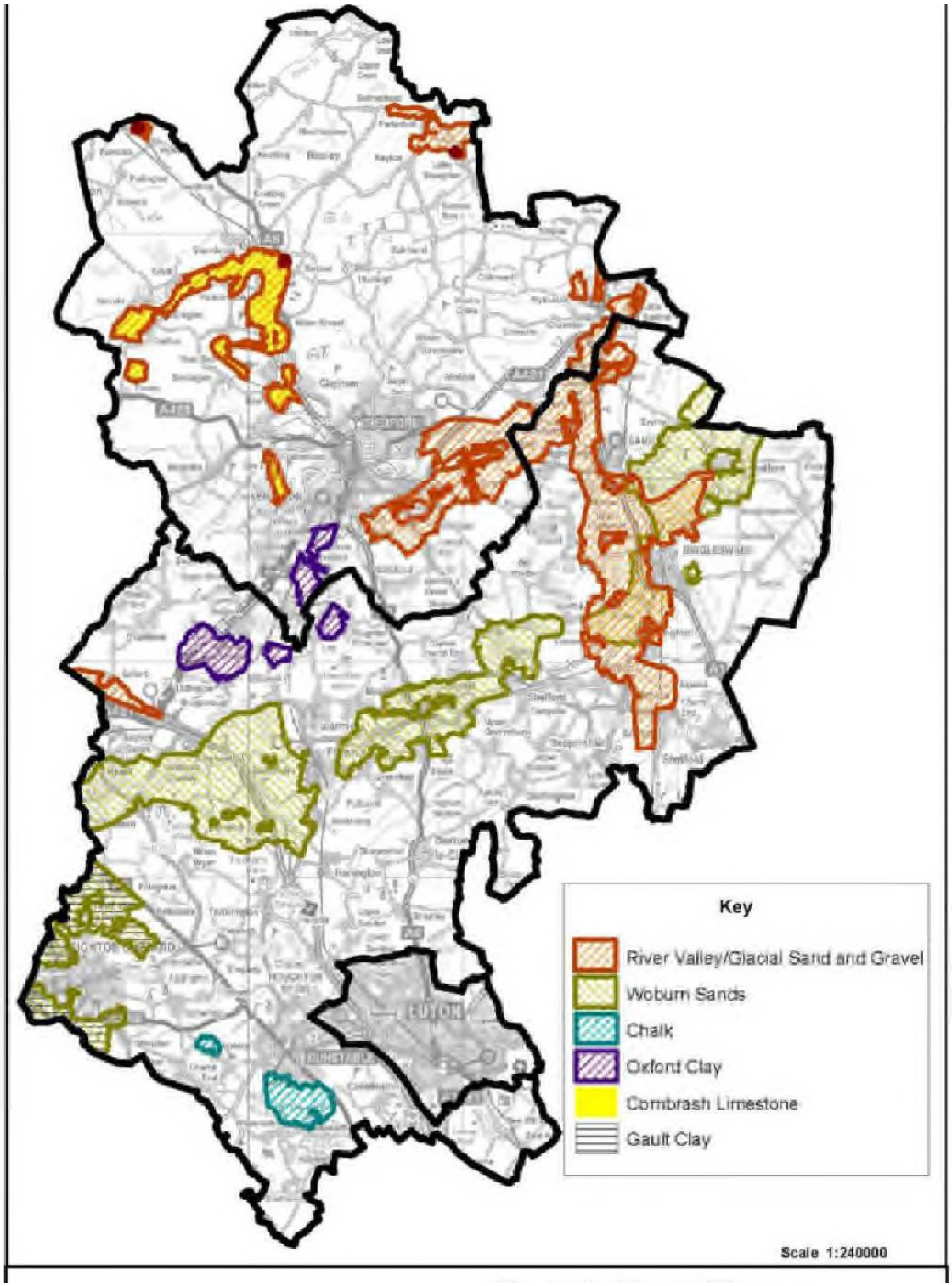
Chalk and clay
The Plan area also contains marine borne minerals in the form of chalk, limestone and clay which could be used as an alternative to aggregate. However, chalk extracted within the plan area is currently only used for cement works in Rugby and small scale building repair works, while clay extraction ceased a number of years ago.

Marine dredged and marine borne Aggregates
The Plan area contains significant reserves of aggregate sand and gravel, the Plan area is land locked and as such contains no areas suitable for the dredging of marine aggregates.

Geology of the Plan area



Mineral Safeguarding Areas



Section two: Aggregate Sand and Gravel

Paragraph 145 of the NPPF states that; *"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 mineral planning authorities, based on a rolling average of 10 years sales data and other relevant local information, and an assessment of all supply options (including marine dredged, secondary and recycled sources)."*

This section contains factual information concerning existing mineral extraction sites, current reserves and annual sales. It includes an assessment of aggregate sand and gravel provision and considers whether there is a surplus or shortfall in aggregate sand and gravel within the Plan area.

Existing sites

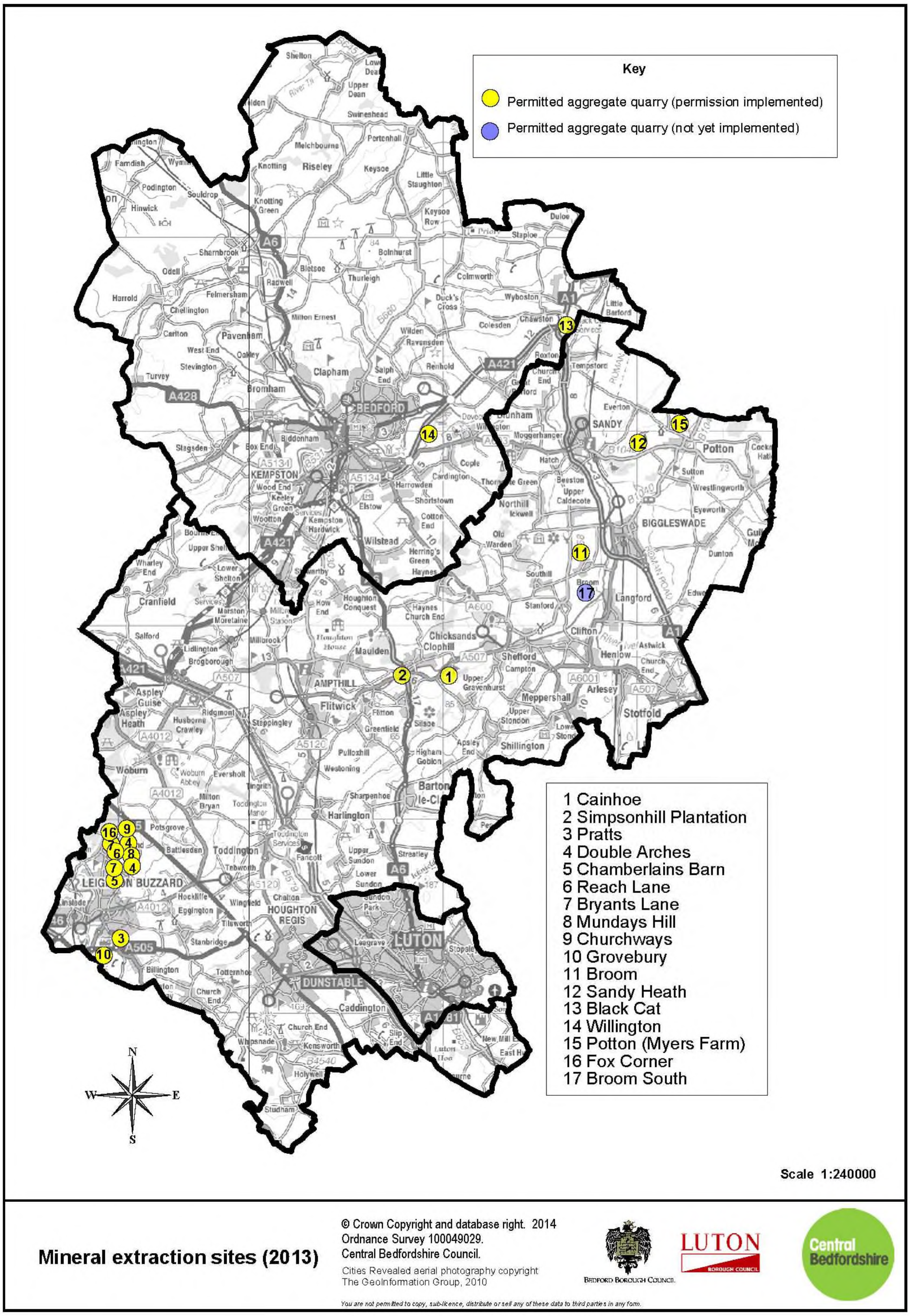
Fifteen permitted aggregate extraction sites were active during the calendar year 2013 in the Central Bedfordshire and Bedford Borough Council administrative areas. There is only one permitted site - Broom South, where preparatory works have been undertaken but extraction has not yet started. Table 1 below lists these sites and states the operator, mineral type and the status of each site; while the map titled "Mineral extraction sites (2013)", illustrates the approximate locations of each site.

Table 1: Land-won mineral sites[1]

	Operator	Site	Mineral extraction end date as stated in the extant PP	Mineral type	Status (extraction undertaken in 2013)
1	Thomas Bros	Cainhoe	Feb 2042	Aggregate	Active
2	Hanson Building Products Ltd	Simpsonhill	Feb 2042	Aggregate	Active
3	Sibelco	Pratts	May 2014	Mainly silica sand, small proportion of aggregate sand.	Active
4		Double Aches	Feb 2042	Both aggregate and silica sand in broadly equal proportions.	Active
5		Chamberlains Barn	Feb 2041	Both aggregate and silica sand in broadly equal proportions.	Active
6	LB Silica Sand	Reach Lane	2015	Both aggregate and silica sand in broadly equal proportions.	Active
7		Bryants Lane	Dec 2041	Both aggregate and silica sand in broadly equal proportions.	Active
8	Aggregate Industries	Mundays Hill	Feb 2042	Approximately two thirds aggregate sand, one third silica sand	Active
9		Churchways	Feb 2042	Both aggregate and silica sand in broadly equal proportions.	Active

[1] Please note "Table 1: Land-won mineral sites" lists sites with permitted mineral reserves available within Bedford Borough and Central Bedfordshire. It does not include exhausted sites now in restoration.

10		Grovebury	July 2021	Both aggregate and silica sand in broadly equal proportions.	Active
11	Lafarge Tarmac	Broom	na	100% aggregate	Mineral extraction ceased Sept 2013
12		Sandy Heath	Main site = Dec 2017 Extension = Dec 2014	100% aggregate	Active
13		Black Cat	Tbc (within 8 years of commencement)	100% aggregate	Active
14	Hope Construction	Willington (including Dairy Farm)	19th October 2016	100% aggregate	Active
15		Potton (Myers Farm)	2015	100% aggregate	Active
16	D B Standing and Sons	Fox Corner	Nov 2014	Aggregate sand.	Active
17	Lafarge Tarmac	Broom South	April 2026	100% aggregate	Inactive (extraction not yet commenced)


Key
Permitted aggregate quarry (permission implemented)
Permitted aggregate quarry (not yet implemented)
1 Cainhoe
2 Simpsonhill Plantation
3 Pratts
4 Double Arches
5 Chamberlains Barn
6 Reach Lane
7 Bryants Lane
8 Mundays Hill
9 Churchways
10 Grovebury
11 Broom
12 Sandy Heath
13 Black Cat
14 Willington
15 Potton (Myers Farm)
16 Fox Corner
17 Broom South
Scale 1:240000
Mineral extraction sites (2013)
© Crown Copyright and database right. 2014
Ordnance Survey 100049029.
Central Bedfordshire Council.
Cities Revealed aerial photography copyright
The GeoInformation Group, 2010
BEDFORD BOROUGH COUNCIL
LUTON
BOROUGH COUNCIL
Central Bedfordshire
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East of England Aggregates Working Party and aggregate provision

The 2009 DCLG national and regional guidelines for aggregates provision in England replace those published in 2003. The new guidelines take account of a revised target of 64 million tonnes per annum by 2015 for alternative materials. The document apportioned 236 million tonnes of land-won sand and gravel and 8 million tonnes of land-won crushed rock to originate from the East of England between 2005 and 2020.

The sub-regional apportionment for the Plan area was subsequently set at 1.84Mt per annum- an amount the Shared Service made provision for within the adopted Plan. The Regions have now been abolished; nevertheless the government recognises the need for Mineral Planning Authorities to co-operate on strategic aggregate minerals planning matters.

The 2012 DCLG Guidance document advises MPAs to consider and seek the technical advice from the relevant Aggregates Working Party (AWP). The East of England AWP recognises the effect of the economic down-turn on mineral production and encourages each MPA to maintain the agreed apportionment figure. For the Central Bedfordshire, Bedford Borough and Luton Borough MPAs this means maintaining an aggregate sand and gravel provision of 1.84Mt per annum.

Annual sales and reserves

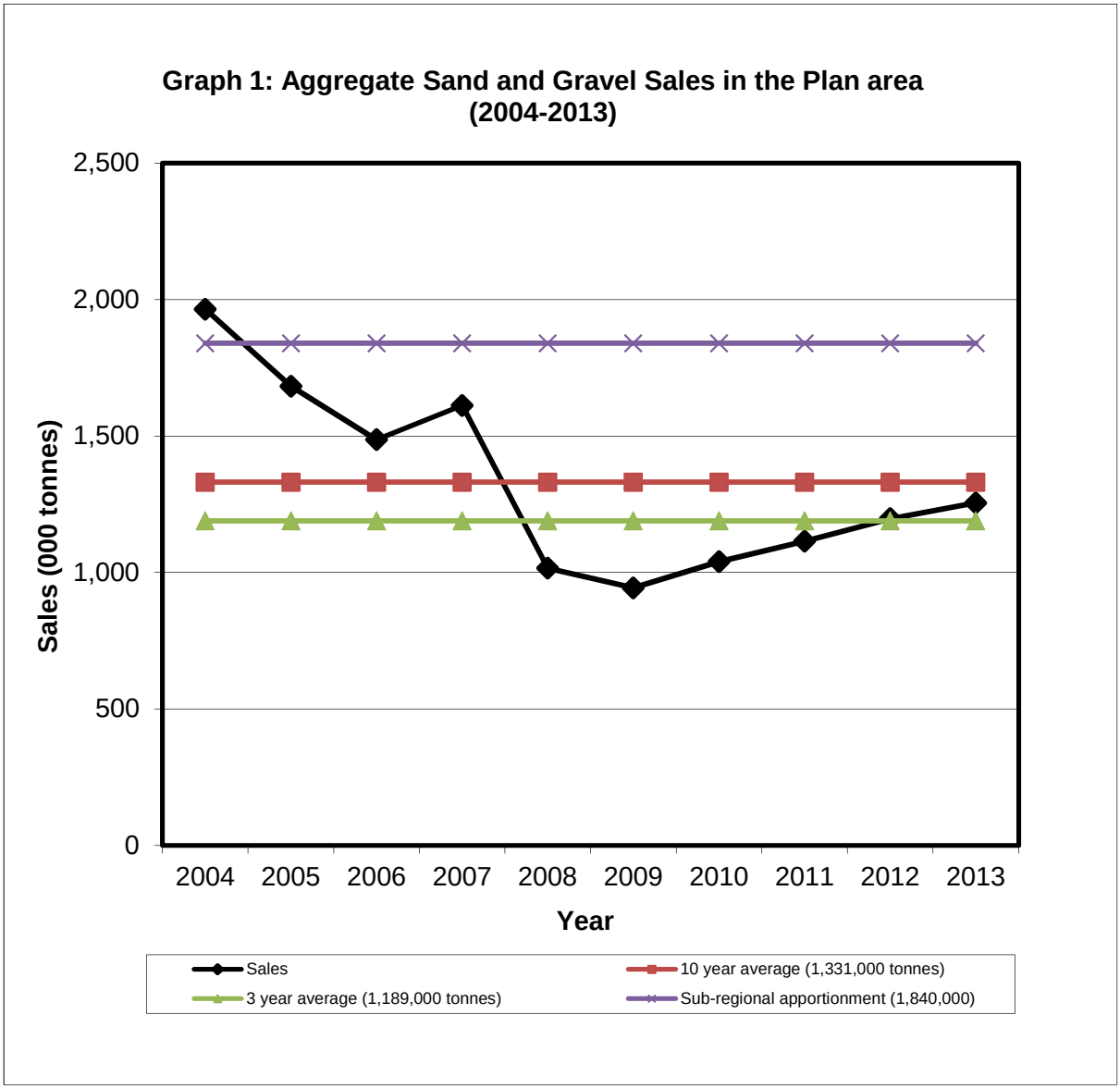
According to the East of England AWP AMR (2013) permitted aggregate reserves in Bedford Borough, Central Bedfordshire and Luton totalled 21.726Mt in 2013, while aggregate sand and gravel sales for that year totalled 1.255Mt. These figures are based on the results of the EEAWP survey (2013) and information contained in planning applications' supporting documents (where 2013 survey information was not available).

Figures in the table below show the aggregate sand and gravel annual sales over the last 10 years as stated in the EEAWP AMR (2013).

Table 2: Sales data (Mt)

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
1.965	1.683	1.487	1.612	1.016	0.944	1.040	1.115	1.197	1.255

The NPPF requires MPAs to maintain a landbank of at least 7 years for sand and gravel. It also encourages MPAs to base their LAA on a rolling average of 10 years sales data and other relevant information. The graph below illustrates the trends in aggregate sand and gravel sales. It shows that the 10 year sales average at 31st December 2013 totalled 1.331Mt. It indicates that the agreed apportionment figure of 1.84Mt is 0.509Mt higher than the 10 year sales average and 0.651Mt higher than the three year sales average.



Trends

The 2012 DCLG document Guidance on the Managed Aggregate Supply System (MASS) document advises Mineral Planning Authorities to look at the 10 year sales average and other information to identify the general trend of demand as part of the consideration of whether it might be appropriate to increase supply. The MASS has now been incorporated into the new Planning Practice Guidance Website.

http://planningguidance.planningportal.gov.uk/blog/guidance/minerals/planning-for-aggregate-minerals/the-managed-aggregate-supply-system/

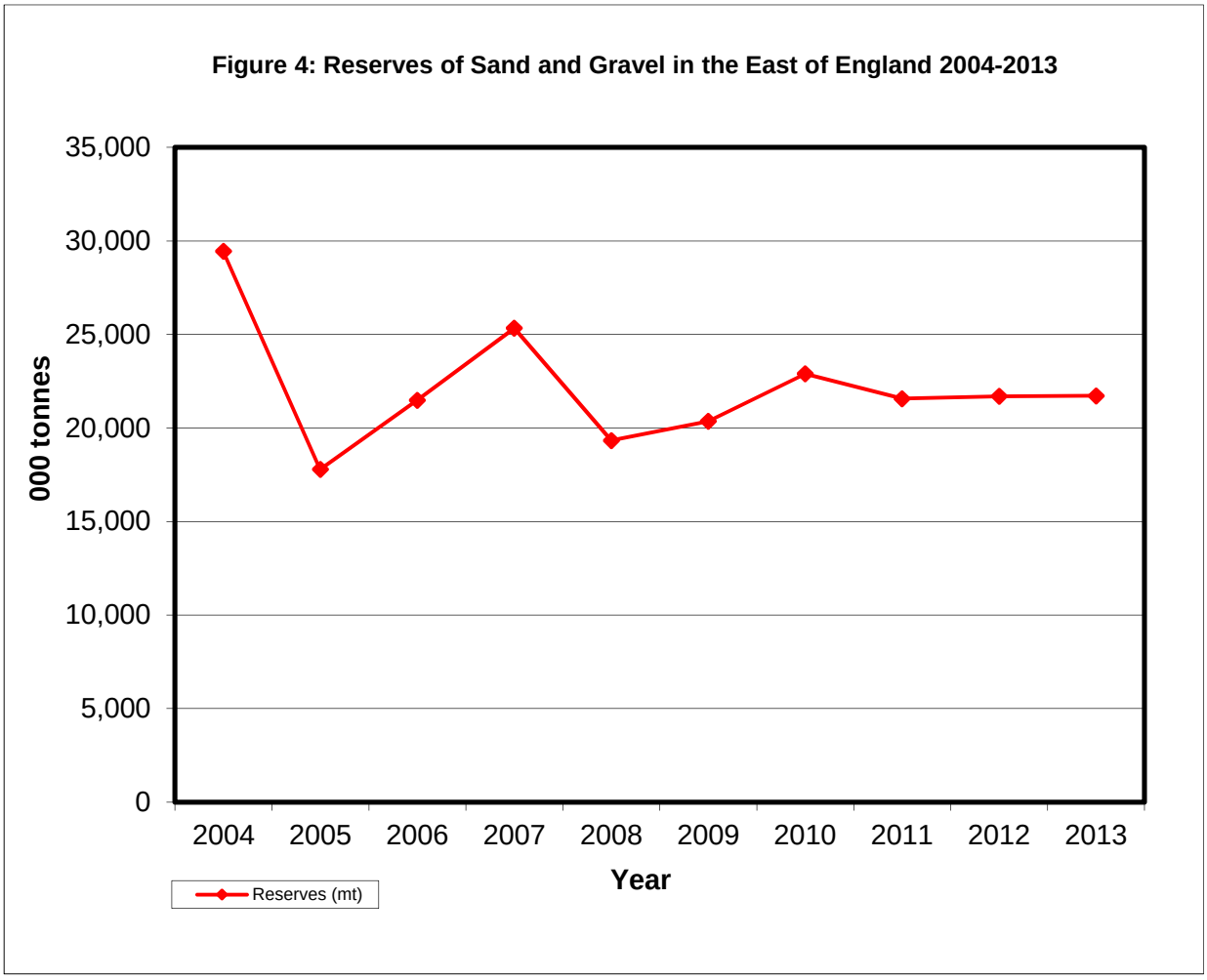
Sales in aggregate sand and gravel over the last six years have been low due the economic climate, but appear to be increasing and are now close to the 10 year sales average.

Reserves

The table and graph below shows trends in aggregate sand and gravel reserves over the last 10 years. The graph shows that levels of permitted reserves have remained stable in recent years.

Table 3: Reserves data (Mt)

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
29.450	17.787	21.492	25.341	19.334	20.364	22.898	21.573	21.700	21.726



Significant construction projects.

The strategic planning documents for Bedford Borough, Central Bedfordshire, and Luton Borough make provision for over 51,300 new houses (see box below). The construction of these houses will require significant quantities of aggregate. In addition to the aggregates required for the construction of these new homes, planned improvement works on the M1 near Luton as well as the A5-M1 link road will also require a significant tonnage of aggregate.

- The emerging Development Strategy for Central Bedfordshire makes provision for **31,000** new homes between 2011 and 2031, of which 13,516 are classified as committed sites.
- The emerging Bedford Borough Issues and Options paper for the Local Plan 2032 suggests that **14,600** houses will be required between 2012 and 2032, of which 12,200 have already been planned for.
- The draft Luton Local Plan suggests that around **5,700** new dwellings will be delivered in the borough through key allocations.

Whilst it is clear that development of the Plan area will take place in the future, it is impossible to predict the level of development and the tonnage of aggregate that will be required. Nevertheless the Shared Service is satisfied that the existing permitted reserves are sufficient to ensure the delivery of planned developments, though of course the LPA will closely monitor the aggregate sand and gravel landbank each year.

Landbank for sand and gravel: Analysis of demand and supply

Paragraph 145 of the NPPF states that MPAs should prepare an annual LAA based on a rolling average of 10 years and other relevant information.

If the current 10 year sales average is used to calculate the sand and gravel landbank the landbank would total **16 years** (21.726Mt / 1.331Mt). If the landbank was based on the apportionment figure the result would be a landbank of **11.8** years (21.726Mt / 1,84Mt). This means regardless of whether the agreed apportionment or the 10 year sales average is used to calculate the landbank the Bedfordshire MPAs are continuing to provide at least a 7 year landbank for aggregates.

Bedford Borough, Central Bedfordshire and Luton Borough	
Sand and gravel sales 2013 estimate (mt)	1.255
Permitted reserves 31/12/2013 (mt)	21.726
Measure 1	
EoEAWP sub-regional apportionment (mtpa)	1.84
Landbank based on EoEAWP sub-regional apportionment (Years)	11.8
Measure 2	
Rolling average of 10 year sales (2004-2013)	1.331
Landbank based on rolling 10 year sales average (Years)	16.3

Meeting the agreed apportionment

The Plan identifies six strategic aggregate sand and gravel sites based on providing the apportionment figure of 1.84 million tonnes per annum for the Plan period (until 2028).

The strategic sites have been selected according to the following sequential test:

- Extensions to existing mineral sites
- "Satellite" extraction sites serving an existing processing plant site
- New sites not connected with any existing operation.

The strategic aggregate sites are listed in the table below. None of these sites have planning permission for mineral extraction.

Table 4: Strategic Mineral Sites

Operator	Site	Mineral type	Potential yield (tonnes)	Total
Hope Construction Materials	Willington Lock	Aggregate sand and gravel	830,000 – 1,180,000	**8,950,000 – 11,400,000**
Lafarge Tarmac	Blunham/ Roxton	Aggregate sand and gravel	2,950,000 – 3,550,000	
Hope Construction Materials	Black Cat (unpermitted area)	Aggregate sand and gravel	670,000 – 770,000	
Hope Construction Materials	Willowhill Farm	Aggregate sand and gravel	250-000 – 950,000	
Hope Construction Materials	Bridge Farm	Aggregate sand and gravel	250,000 – 950,000	
Lafarge Tarmac	Land south of Broom Village (unpermitted area)	Aggregate sand and gravel	4,000,000	

Section three: Recycled and secondary aggregates

Secondary and recycled aggregates help to reduce the rate at which primary aggregate resources are depleted. Their use is encouraged through the NPPF. According to the BGS document, "Aggregate resource alternatives: Options for future aggregate minerals supply in England", the quantity of recycled and secondary aggregates produced in the Great Britain increased by 107% between 1990 and 2005.

The National and Regional guidelines for aggregate provision 2005-2020 assume that for the East of England 117million tonnes of alternative materials will be produced. This means the guidelines for land-won production are 236 million tonnes

and 8 million tonnes for land-won sand and gravel and crushed rock respectively as shown in the table below.

Table 5: National and regional guidelines for aggregate provision in England 2005-2020 (million tonnes).[2]

New regions	Guidelines for land-won production		Assumptions		
	Land-won sand and gravel	Land won Crushed rock	Marine sand and gravel	Alternative materials	Net imports to England
East of England	236	8	14	117	7
England	1,028	1,492	2,59	993	136

Recycled aggregates

Recycled aggregates are sourced from construction, demolition and excavation wastes (C, D, E). The Plan area contains a number of sites with planning permission to recycle aggregate waste. Their permitted capacities and approximate locations are shown on the table and map below.

Table 6: Aggregate recycling facilities in the Plan area[3]

Site	Operator	Type of facility	Permitted capacity as stated on the Planning permission (tonnes per annum)
North End Farm	C Jackson and Sons	Aggregates recycling	10,000
Willington Quarry	Lafarge Aggregates	Aggregates recycling (until December 2017)	50,000
Land to the North of Barford Road	Acorn Transport and Plan Hire	Aggregates recycling	no planning restriction
Cainhoe quarry	Thomas Bros Exc Ltd	Aggregates recycling (until January 2015)	125,000

[2] Based on a table in the June 2009 DCLG document: National and regional guidelines for aggregate provision in England 2005-2020.

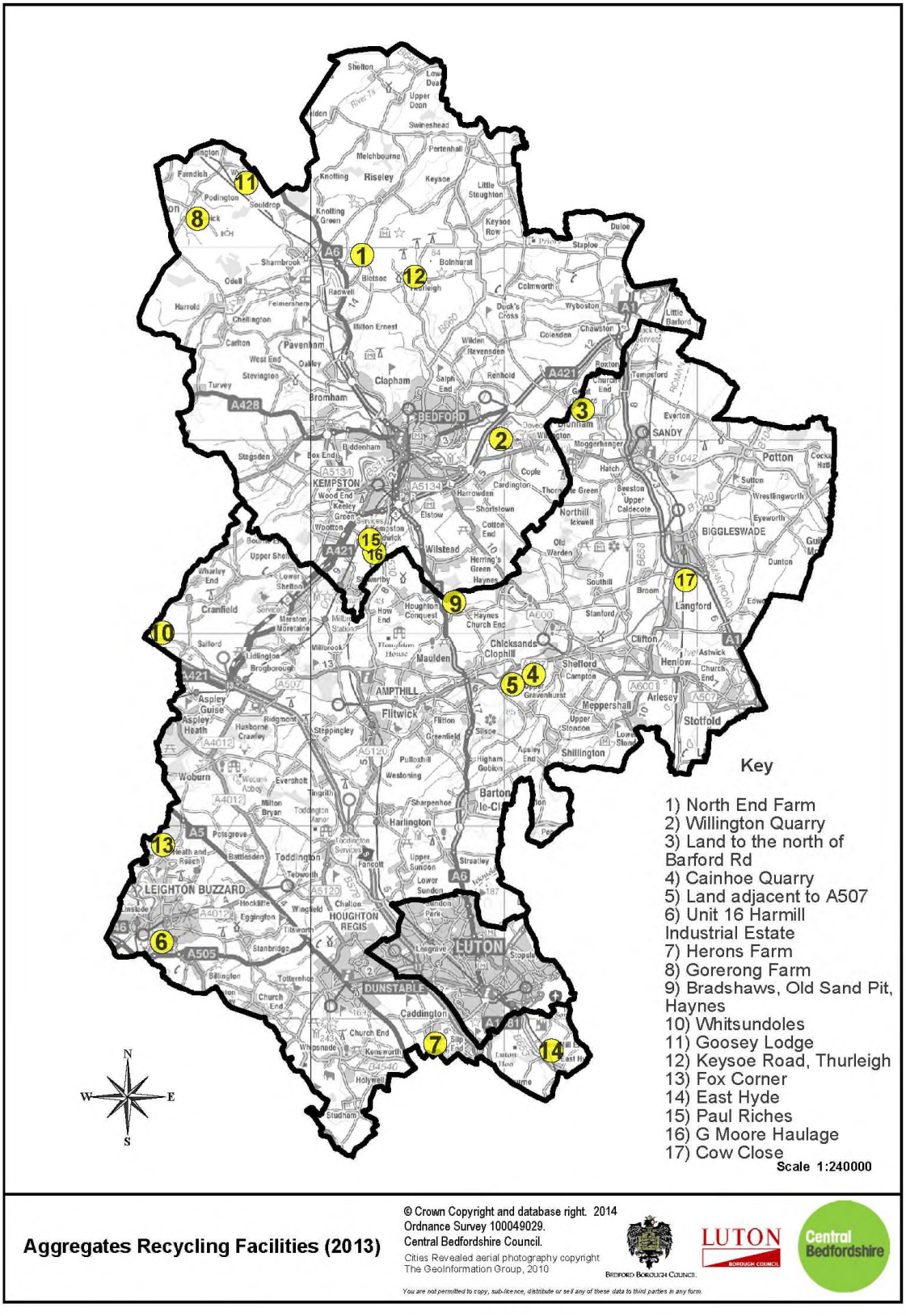
[3] The table above reflects the permitted capacity of aggregate recycling sites within the Plan area as of 31st December 2013. It does not include any information pertaining to Environment Agency requirements.
Please note a number of sites have permission to accept a variety of waste-streams. This means some of the sites have the flexibility to import different types of waste, and may therefore choose not to recycle aggregate on site for commercial reasons.
The tonnage of aggregate recycled in 2013 at each site has not been recorded for confidentiality reasons.

Land adjacent to A507	Winton Haulage	Aggregates recycling	no planning restriction
Unit 16, Harmill Industrial Estate	JP Callanan and Son Ltd	Aggregates recycling	75,000
Heron's Farm	Mr G Sayers	Aggregates recycling	No planning restriction
Gorerong Farm	Stable Hire	Aggregates recycling	10,000
Old Sand quarry, Haynes	Bradshaw's	Aggregates recycling	7,500
Whitsundoles (temporary permission until 2015)	Smith Construction	Aggregates recycling	30,000
Goosey Lodge	Wykes Engineering	Aggregates recycling	105,000
Keysoe Road, Thurleigh	C Jackson and Sons	Aggregates recycling	1,900
Fox Corner	DB Standing and Sons	Aggregates recycling (until 2014).	No limit.
East Hyde	Holywell Haulage	Aggregates recycling (are able to accept other waste streams)	48,000
Paul Riches Skips, Kempston Court, Manor Road	Paul Riches Skips	Transfer and MRF including aggregates recycling	75,000 (mixed waste)
G Moore Haulage, Kempston Court	G Moore Haulage	Transfer and Aggregates recycling	75,000 (mixed waste)
Cow Close	FD O'Dell and Sons Ltd	Transfer and MRF Aggregates recycling	25,000
F&R Cawley Ltd	F&R Cawley Ltd	Transfer	-
Progress Way HWRC	FCC Recycling (UK) Ltd	HWRC/treatment	-
Three Shires Waste Recycling Ltd	Three Shires Waste Recycling Ltd	Transfer	-
Eaton Green HWRC	F C C Recycling (U K) Limited	HWRC	-
Total capacity			**637,400**

According to the 2012 and 2013 Environment Agency Waste Data Interrogators aggregate recycling/transfer sites within the Plan area received **149,181** tonnes of aggregate 2012 and **149,522** tonnes of aggregate in 2013. This means there was over **487,878** tonnes of spare aggregate recycling/transfer capacity in 2013.

Secondary aggregates

Secondary aggregates are sourced from industrial wastes, such as glass, ash, railway ballast, fine ceramic waste and scrap tyres; and industrial and minerals by-products, notably waste from china clay, coal and slate extraction and spent foundry sand. The Plan area contains no china clay, coal or foundries and is not industrial in nature. Its ability to produce secondary aggregates is therefore limited. The main potential source of secondary aggregates from the Plan area may arise from the Stewartby aggregates railhead facility which specialises in railway ballast.



Aggregates Recycling Facilities (2013)

Section four: Imports and exports

The BGS collation document also includes information on primary aggregate imports. According to the document Central Bedfordshire, Bedford Borough and Luton Borough imported 338,000 tonnes of land-won sand and gravel, 3,000 tonnes of marine sand and gravel and 570,000 tonnes of crushed rock in 2009.

Whilst it is possible to state the tonnage of aggregate imported into the Plan area in 2013 via rail, it is impossible to state the tonnage of mineral that was imported or exported via road in 2013. For this reason the LAA cannot state whether the Plan area is a net importer or exporter to aggregates in 2013, though according to the BGS summary document (pages 77 and 94) the Plan area was a net importer of aggregate in 2009 (as shown on table 7).

Table 7: Central Bedfordshire, Bedford Borough and Luton Borough aggregate import and export figures (2009).

	Sand and gravel	Limestone
Imports	**338,000 tonnes**	**570,000 tonnes**
Exports	**291,000 tonnes** (141,000 tonnes sent to the East of England, 150,000 tonnes to authorities outside the East of England).	0
Difference	47,000 tonnes	570,000 tonnes

Railhead facilities

Whilst Central Bedfordshire and Bedford Borough have significant reserves of aggregate sand and gravel, it is deficient in crushed rock. As a result it is reliant on authorities outside the Plan area, most notably Leicestershire, for crushed rock. Crushed rock is imported into the plan area via two aggregate railhead facilites- Elstow (Bedford Borough) and Crescent Road (Luton Borough), while the Stewartby railhead facility imports ballast for use by network rail.

Limbury Sidings imports sand from the Greenwich wharf and is used in the production of ready-mixed concrete.

Table 8: Aggregate railhead facilities

Site	Handling activity	OS Grid reference	Source of material
Elstow (LafargeTarmac)	Receiving depot	TL041 457	Leicestershire
Crescent Road, Luton (LafargeTarmac)	Receiving depot	TL 097 215	Leicestershire
Limbury sidings, Luton (Hope Construction Materials)	Receiving depot	TL 075 229	Greenwich wharf (London)
Stewartby Rail Depot (Network rail)		TL 01252 42750	Rail ballast

Section five: Conclusion

Land –won aggregates

The Plan area contains significant deposits of aggregate sand and gravel. At 31st December 2013 estimates of permitted reserves totalled 21,726,000 tonnes. The aggregate sand and gravel landbank for Central Bedfordshire, Bedford Borough and Luton equate to 11.8 years (based on the 1,840,000 tonnes per annum, agreed apportionment) or 16 years if based on the 10 year average sales. The 3 year sales average for aggregate sand and gravel stands at 1,189,000 (December 2013). If the MPA use the 3 year sales average to calculate the landbank, the landbank would total 18.3 years. The three MPAs are therefore confident that the 7 year aggregate sand and gravel landbank required by the NPPF has been met.

The Plan includes a number of mineral policies and six strategic aggregate sand and gravel sites which together help to ensure that the 7 year landbank will continue to be maintained for the plan period.

Given the level of the landbank, and the reserves contained in the strategic mineral sites identified in the adopted MWLP:SSP, the three authorities (BBC, CBC and LBC) is in a satisfactory position in respect of aggregate supply.

Marine dredged aggregates
The Plan area contains no deposits of marine dredged or marine borne aggregates. There are currently no sites from which crushed rock can be sourced and as such it is necessary to continue to rely of sites outside the Plan area for these minerals.

Secondary and recycled aggregates
At the end of the calendar year 2013, seventeen permitted aggregate recycling sites existed in the plan area. It is not likely that secondary aggregate is produced from the plan area.

Data sources

- National Planning Policy Framework
- 2013 AWP Survey
- Goodquarry.com Quarry Fines and Waste British Geological Survey
- DCLG Mineral extraction in Great Britain 2011: Business Monitor PA1007
- DCLG National and regional guidelines for aggregates provision in England 2005-2020 2009 Guidelines
- DCLG, BGS and Welsh Assembly document October 2011: Collation of the results of the 2009 aggregate minerals survey for England and Wales.
- Local Plan Minerals Technical Evidence Papers.