



## **Norfolk Minerals and Waste Local Plan**

Eleventh Annual Monitoring Report  
Mineral Data  
Local Aggregate Assessment & Silica Sand Assessment  
2014

March 2016

# Norfolk County Council

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Mineral Data  
Local Aggregate Assessment & Silica Sand Assessment  
2014

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## Executive Summary

There are two general mineral types which are extracted for aggregate use in Norfolk. These are sand and gravel and carstone, and key facts on the production of these minerals during the monitoring year 2014 are shown below.

### Sand and Gravel key facts

- Annual production was 1.36 million tonnes (mt) up to 31 December 2014. Annual production was 22% up on production in 2013 of 1.12mt
- The 10 year average of annual production was 1.58mt up to the end of 2014.
- The 10 year average in 2014 was 8% down on the 2013 figure of 1.71mt.
- The 3 year rolling average was 1.20mt up to 31 December 2014. The 3 year rolling average was 2% up on the 2013 figure of 1.18mt.
- Norfolk's apportionment of sand and gravel from sub-national guidelines is currently 2.57mt, having previously been 2.98mt until the end of 2010 and 3.4mt prior to 2003. The annual production for 2014 (1.36 mt) was 53% of the apportionment target; this was up 10% on the 2013 figure. Sand and gravel production in Norfolk has not reached the apportionment target in the last twenty years. The 20 year average is 2.10mt.
- Three planning permissions for new sand and gravel extraction were granted in 2014. These were all allocated sites in the adopted Plan. The three new mineral permissions increased the level of permitted reserves by 3.76mt. Reserves of sand and gravel at 31 December 2014 were 15,315,934 tonnes, an increase of 15% on the 2013 figure.
- Based on the 10 year average production figure of 1.58mt, the remaining allocated sites in the Minerals Site Specific Allocations Plan would provide a further 14.7 years of sand and gravel resource (23.33mt).

### Carstone key facts

- Annual production was 60,189 tonnes up to 31 December 2014. Annual production was 62% up on production in 2013 of 37,193 tonnes
- The 10 year rolling average was 112,015 tonnes up to 31 December 2014. The 10 year rolling average was 9% down on the 2013 figure of 123,000 tonnes.
- The 3 year rolling average was 71,890 tonnes up to 31 December 2014. The 3 year rolling average was 1% down on the 2013 figure of 72,596 tonnes.
- Norfolk's apportionment of carstone from sub-national guidelines is currently 200,000 tonnes, having previously been 250,000 prior to 2003. The annual production for 2014 (60,139 tonnes) was 30% of the apportionment target; this was up 11% on the 2013 figure. Carstone production in Norfolk has reached the apportionment target once in the last twenty years. The 20 year average is 143,812 tonnes.
- There were no new planning applications or permissions for new carstone extraction in 2014.

## Recycled and secondary aggregate key facts

- Annual production was 477,000 tonnes up to 31 December 2014.  
Annual production was 17% up on production in 2013 of 407,000 tonnes.
- The 10 year rolling average was 489,400 tonnes up to 31 December 2014.  
The 10 year rolling average was 6% down on the 2013 figure of 521,000 tonnes.
- The 3 year rolling average was 444,670 tonnes up to 31 December 2014.  
The 3 year rolling average was 8% up on the 2013 figure of 410,000 tonnes.

## Conclusion

Norfolk's share of the sub-national guideline figures (the apportionment) for sand and gravel of 2.57 million tonnes per annum and carstone of 0.2 million tonnes per annum represent higher figures than the locally derived figures. These higher figures were used in Core Strategy Policy CS1 as the basis for allocations to plan for the provision of a steady and adequate supply of aggregate and provide flexibility.

Average annual sales of 1.58 million tonnes for sand and gravel and 112,000 tonnes for carstone (as at 31/12/14) have been derived from a ten year sales based assessment compliant with the NPPF and NPPG. The Mineral Planning Authority does not consider it prudent at this time to base allocations purely on a rolling average of ten years sales, as having regard to paragraph 14 of the NPPF, flexibility is required in allocations. Having regard to all of the figures in this LAA, it is considered that the CS1 figure still represents a suitable figure on which to base allocations to achieve an adequate and steady supply of aggregate over the plan period. The Mineral Planning Authority will continue to monitor this trend.

The Minerals and Waste Plan is up to date in relation to the supply of aggregate, and the County Council considers that the sand and gravel allocations within the plan to meet the CS1 target are deliverable. Therefore, it is not considered necessary, at the present time, to conduct a review into the aggregate allocations in the plan. Norfolk County Council is currently undertaking a Single Issue Silica Sand Review of the Minerals Site Specific Allocations Plan, which is at a Preferred Options Stage. Silica Sand is a nationally important industrial mineral and is not used for aggregate uses in Norfolk.

**Secondary & Recycled Provision Allowance to 2026** – the locally derived data available on secondary and recycled aggregate is variable and not considered completely reliable. This makes it difficult for Norfolk County Council to reduce the level of land won aggregate provision on this basis. The work carried out to produce the aggregate apportionment figures for the period 2005-2020 took account of the capacity of facilities to provide recycled and secondary aggregates i.e. the assumptions are built in to the apportionment figure. The Council intends to carry forward the apportionment figures for aggregates in allocated provision and consider that this figure does not require any further adjustment to reflect secondary and recycled aggregate provision.

**Marine Sources Requirement to 2026** – the total of 1,000 tonnes of marine sourced aggregate represents such a small percentage of the total aggregates used in Norfolk it is not proposed to make any adjustments to the mineral requirement figures moving forward.

# 1. Introduction

This document is Norfolk's Local Aggregate Assessment. In order provide information on all of Norfolk's mineral extraction in one place, data on non-aggregate minerals has been included in separate sections at the end of this LAA. The non-aggregate minerals worked in Norfolk are silica sand, clay and chalk.

Annual monitoring of aggregate production and reserves in Norfolk has been carried out since 1975. In 2014 almost all the active sites produced sand and gravel, although there are three carstone (a type of sandstone) quarries in West Norfolk producing fill and aggregates. In addition there is one clay working, three active chalk workings and one major silica sand operation in the County. These existing sites are listed in this document in section 9.

The National Planning Policy Framework (NPPF) (March 2012) paragraph 145 requires Mineral Planning Authorities to plan for a steady and adequate supply of aggregates by determining their own levels of aggregate provision based on a rolling average of 10 years sales data and other relevant local information. The National Planning Practice Guidance (NPPG) contains current government guidance regarding Local Aggregate Assessments (LAA).

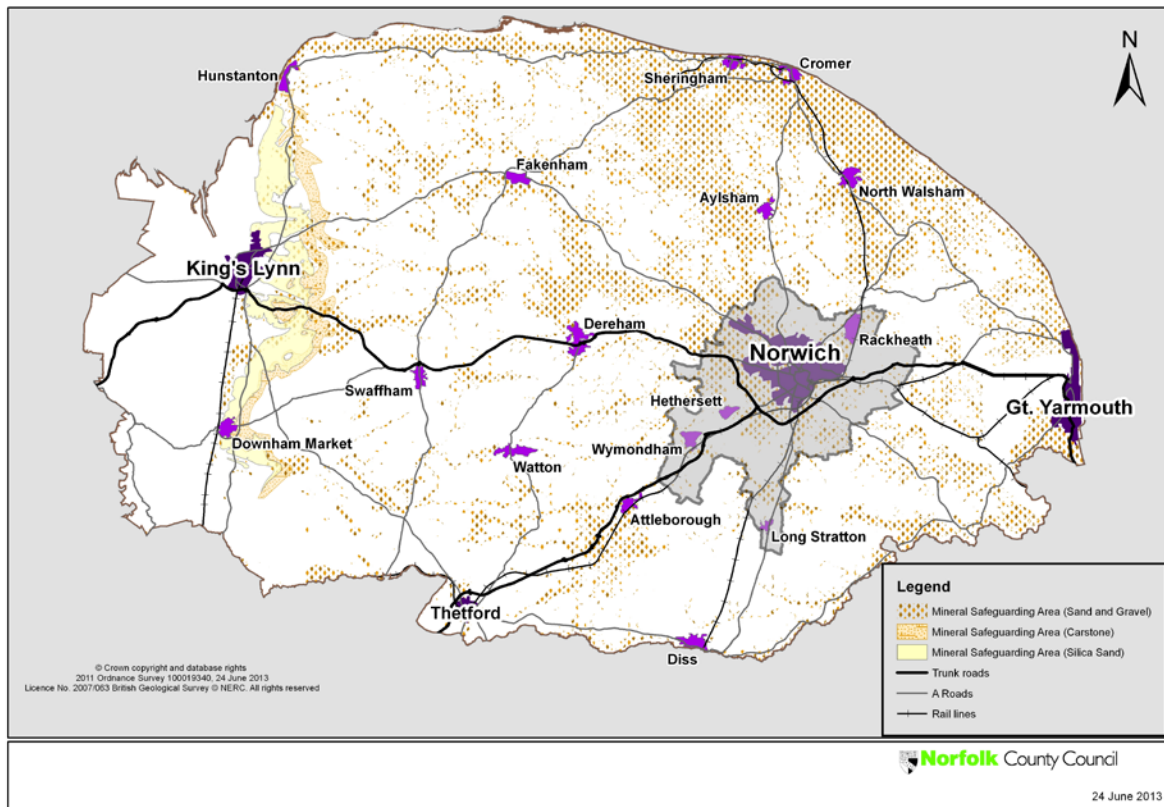
The NPPG contains similar requirements to the previous MASS guidance in relation to LAA's and states that they are a monitoring report to provide "an annual assessment of the demand for and supply of aggregates in a mineral planning authority's area."

LAAs should include:

- A forecast of future mineral requirements based on both a rolling average of sales over a ten-year period, and other relevant local information;
- an analysis of all aggregate supply options, this 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.

The rolling average of 10 years sales data will inform the targets for mineral extraction requirements. The LAA is a part of the evidence base and will inform future reviews of the adopted Core Strategy and Minerals and Waste Development Management Policies Development Plan Document and the Minerals Site Specific Allocations DPD. It is important to note that the landbank figures included within the LAA are, as stated in the NPPG, "principally a monitoring tool to provide a Mineral Planning Authority with early warning of possible disruption to the provision of an adequate and steady supply of land-won aggregates". As landbanks relate to the provision of aggregates, a figure below 7 years for aggregate and 10 years for crushed rock should be used as a trigger to determine whether a review of the allocations plan is required.

## Minerals in Norfolk



**Map 1: Mineral resources in Norfolk**

Sand and gravel is the main aggregate worked in Norfolk. A small amount of Carstone is extracted mainly in west Norfolk for use as a building material or as a hoggin. Crushed rock for asphalt production is imported in to Norfolk mainly by rail as no indigenous material is suitable for this use.

Norfolk is a county rich in important wildlife and designated landscapes. There are 12 Special Protection Areas (SPAs), seven Special Areas of Conservation (SACs) and 162 Sites of Special Scientific Interest (SSSIs). Significant habitats include the Wash, the Broads, the Brecks and the Fens. The Norfolk Coast Area of Outstanding Natural Beauty (AONB) runs, with a few breaks, from King's Lynn in the west along the coast to Winterton in the east, and covers 450 square km. These designations often restrict mineral activities.



## New Capacity in Norfolk

The table below shows the new mineral reserves approved from 1 January to 31 December 2014. All other mineral reserve data is recorded by calendar year, so to ensure consistency new capacity will also now be shown by calendar year. Previous Annual Monitoring Reports have recorded new capacity for the period 1 April to 31 March. The mineral site at Stanfield Road shown on this table, was also shown in the 2013-14 AMR, as it was granted planning permission in January 2014.

Location	Applicant	Type of Facility	Reserve (tonnes)	
			Est. max Throughput Per Annum	Total
Holt Road, East Beckham, Sheringham	Gresham Gravel Ltd	Sand and Gravel extraction	100,000 tpa	1,600,000
Coxford Abbey Quarry, Docking Road, Syderstone, Fakenham, PE31	Longwater Gravel Co Ltd	Sand and Gravel extraction	120,000 tpa	1,560,000
Stanfield Road, Wymondham	Longwater Gravel Co Ltd	Sand and Gravel extraction	60,000 tpa	600,000

**Table 1: New Mineral Capacity in Norfolk 2014**

## 2. Sand and Gravel

### 2.1 Production

Norfolk County Council carries out an annual survey for sand and gravel production, and the totals from this survey are included in this report. The totals for the last 10 years are shown in table 1 below:

Year	Production
2005	2,381,000
2006	2,449,000
2007	1,978,000
2008	1,584,000
2009	1,377,000
2010	1,196,000
2011	1,289,000
2012	1,131,941
2013	1,114,935
2014	1,359,620

**Table 2: Sand and gravel 10 year sales 2005-2014**

Source: Norfolk County Council - annual minerals survey

Sand and gravel is important as a construction aggregate and prior to the introduction of the NPPF and National Planning Policy Guidance it was planned using a system known as the Managed Aggregate Supply System. A key part of the MASS was an apportionment system for national need. A national requirement for sand and gravel was calculated, and this was then divided into sub-national requirements, which were in turn apportioned to individual MPAs as provision to be planned for.

Since the introduction of the NPPF, the MASS guidance has been cancelled and the national and sub-national requirements have become guidelines. These guidelines form part of the information relevant to the calculation of future demand in a Local Aggregate Assessment. The table below shows annual production as a proportion of the apportionment/guideline figure. It can be seen that the apportionment figure has not been met by production in the last 10 years despite a number of workings having been mothballed during that time demonstrating that there was spare productive capacity.

Year	Apportionment/ guideline	Production	% Apportionment Produced
2005	2,980,000	2,381,000	80%
2006	2,980,000	2,449,000	82%
2007	2,980,000	1,978,000	66%
2008	2,980,000	1,584,000	53%
2009	2,980,000	1,377,000	46%
2010	2,980,000	1,186,000	39%
2011	2,570,000	1,289,000	50%
2012	2,570,000	1,131,941	44%
2013	2,570,000	1,114,935	43%
2014	2,570,000	1,359,620	53%

Table 3: Sand and Gravel production as a % of apportionment

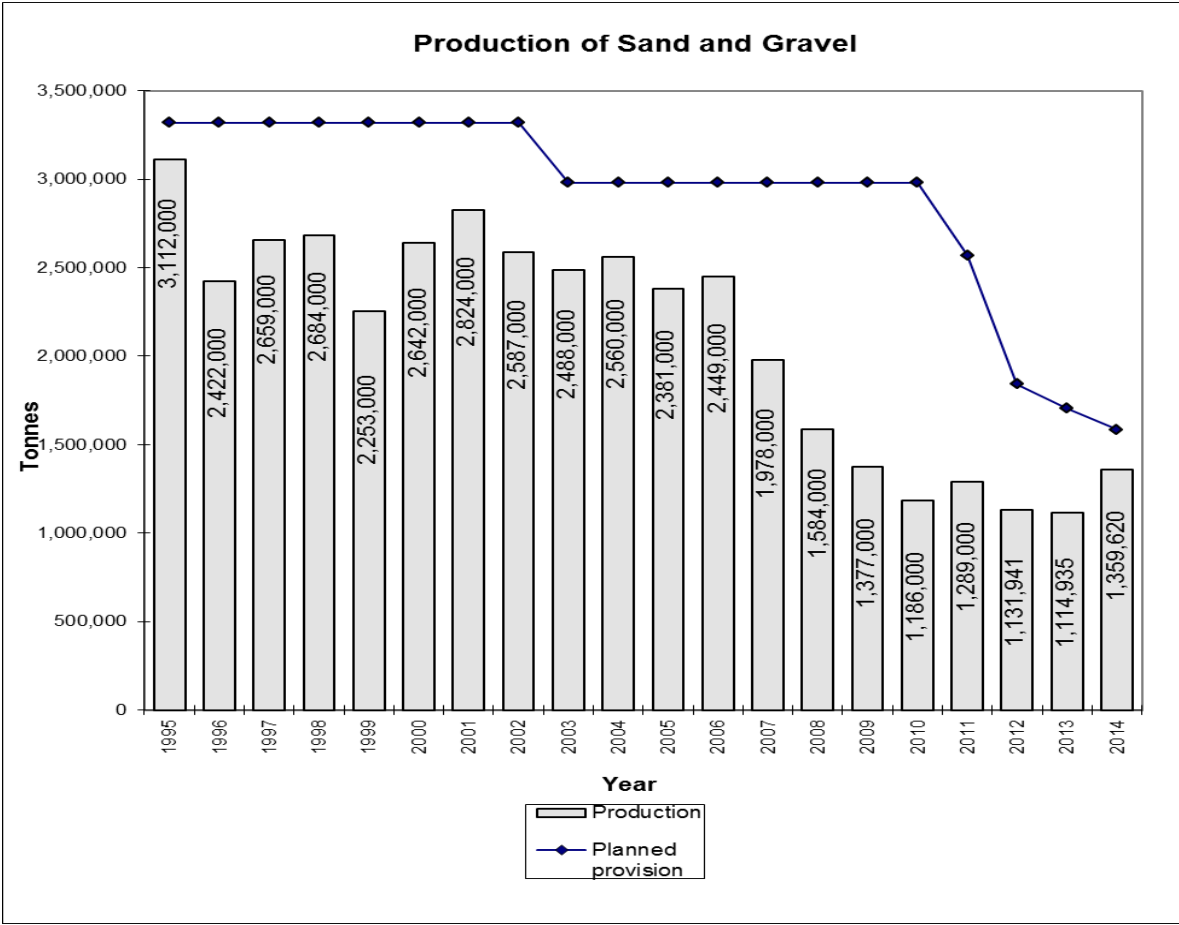


Figure 1: Sand and gravel sales 1995-2014

Source: Norfolk County Council – annual minerals survey.

Sand and gravel production in 2014 was 1,359,620 tonnes, representing an increase of 22% on the 2013 figure. Production of sand and gravel continues to be well below the high levels of the late 1980s and early 1990s and below the average for the last twenty years of about 2.10 million tonnes (mt) per annum. **The average over the last 10 years was 1.58 million tonnes per annum.** The NPPG states that the 10 year rolling average is the starting point for the calculation of future demand for aggregate landbanks. The ten year rolling average has continued to fall at approximately the same rate year on year during the last four reporting years.

Year	10-Year Average
2011	1.99 mt
2012	1.84 mt
2013	1.71 mt
2014	1.58 mt

**Table 4: 10 year rolling average of sand and gravel production for the last four years**

**The rolling 3 year average is 1.20 million tonnes per annum.** This indicates a very slight increase for sand and gravel with this year's production increasing the 3 year average from 1.18 mt to 1.20 mt. However, this change is within the margin of error for the data. The three year rolling averages for the last 4 years are as follows:

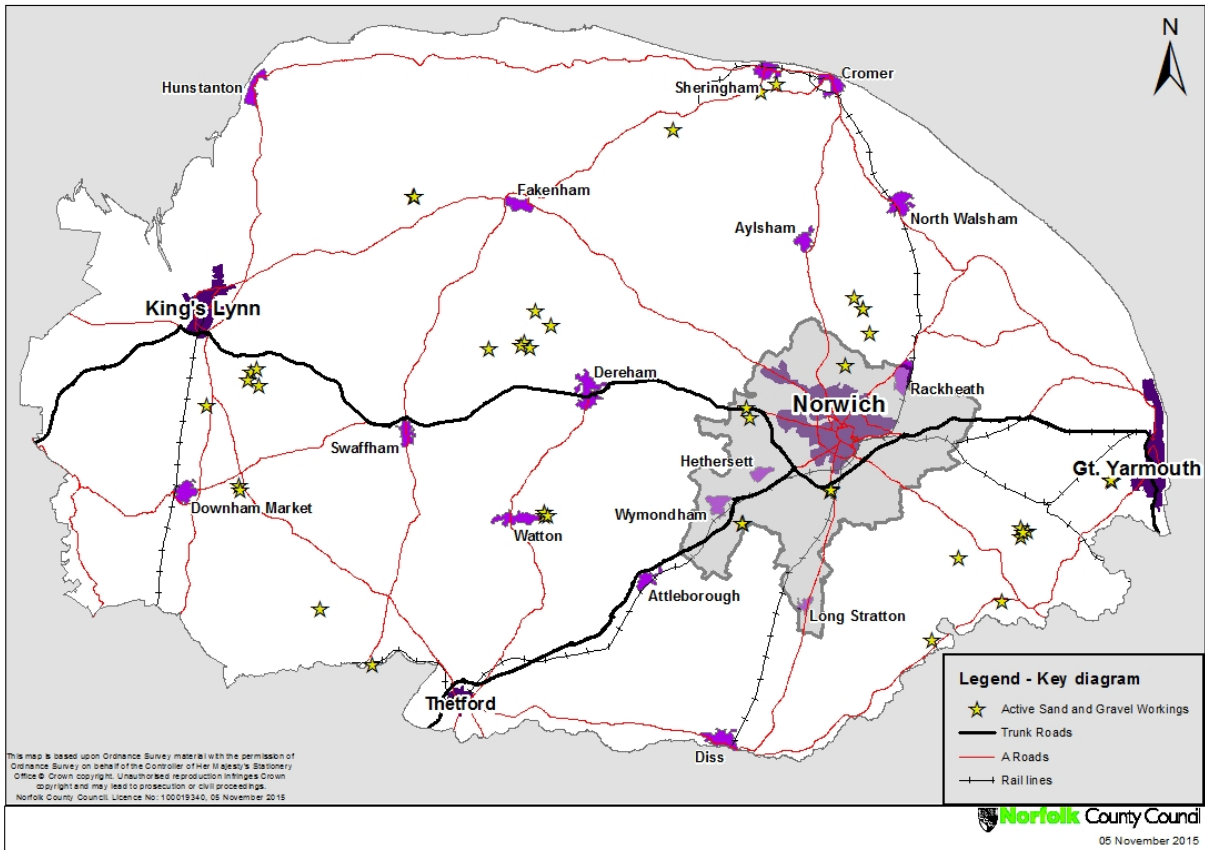
Year	3-Year Average
2011	1.28 mt
2012	1.20 mt
2013	1.18 mt
2014	1.20 mt

**Table 5: 3 year rolling average of sand and gravel production for the last four years**

The NPPG suggests the use of 3 year average figures to indicate recent trends in sales. As can be seen from the table above the rolling three year average since 2012 has been largely static.

The NPPG suggests that the 10 year rolling average, 3 year rolling average and the sub-national guidelines should all be considered in order to establish a broad understanding of current and future mineral demand, especially during reviews of planned provision.

## 2.2 Sand and Gravel extraction sites in Norfolk in 2015



Map 2: Sand and Gravel extraction sites in Norfolk in 2014-2015

<b>Sand and Gravel extraction</b>		
<b>Parish</b>	<b>Operator</b>	<b>Address</b>
Beeston Regis	Carter Concrete	Britons Lane
Attlebridge	Cemex	Reepham Road
Holt	Cemex	Ducks Hole Farm, Hunworth Road
Litcham	East Anglian Stone	Punch Farm, Watery Lane
Crimplesham	Frimstone	Main Road
Tottenhill	Frimstone	Watlington Road
Wormegay	Delta Roadstone	New Road
Pentney	Middleton Aggregates	Abbey Farm
Middleton	Middleton Aggregates	Mill Drove
Earsham	Earsham Gravels	Bath Hills Road
Kirby Cane	Lyndon Pallet Group	Leet Hill, Yarmouth Road
Carbrooke	Four Leaf Enterprises	Mill Lane
Shropham	Breedon Aggregates	Swangey Lane
Easton	Lafarge Tarmac	County Showground
Stanfield	East Anglian Stone	Nr Highfields Lodge on B1146
Feltwell	Frimstone	Lodge Road
Burgh Castle	Folkes Plant	Butt Lane
Wymondham	Longwater Gravel	Stanfield Road
Raveningham Norton Subcourse	Cemex	Loddon Road
East Bilney	Middleton Aggregates	Rawhall Lane
Spixworth	Lafarge Tarmac	Grange Farm, Buxton Road
East Rudham	Longwater Gravel	Coxford Abbey Quarry, Docking Road
Middleton	Delta Roadstone	Mill Drove
Carbrooke	Frimstone	Summer Lane
Mundham	Earsham Gravels	Mundham Road
Easton	Cemex	Costessey Quarry, Longdell Hills
Weeting	Lignacite	Off High Street, Brandon
Horstead	Longwater Gravel	Grange Farm, Buxton Road, Horstead
Horstead	Lafarge Tarmac	Trafford Estate, Horstead
Buxton	Frimstone	Adj Mayton Wood Landfill
Swardeston	Lafarge Tarmac	Mangreen Hall Farm
Stody	Frimstone	Breck Farm, Melton Constable
Longham	McLeod Aggregates Ltd	Bittering Quarry, Reed Lane, Bittering
East Beckham	Gresham Gravels	Holt Road

**Table 6: Sand and Gravel extraction sites in 2014-2015**

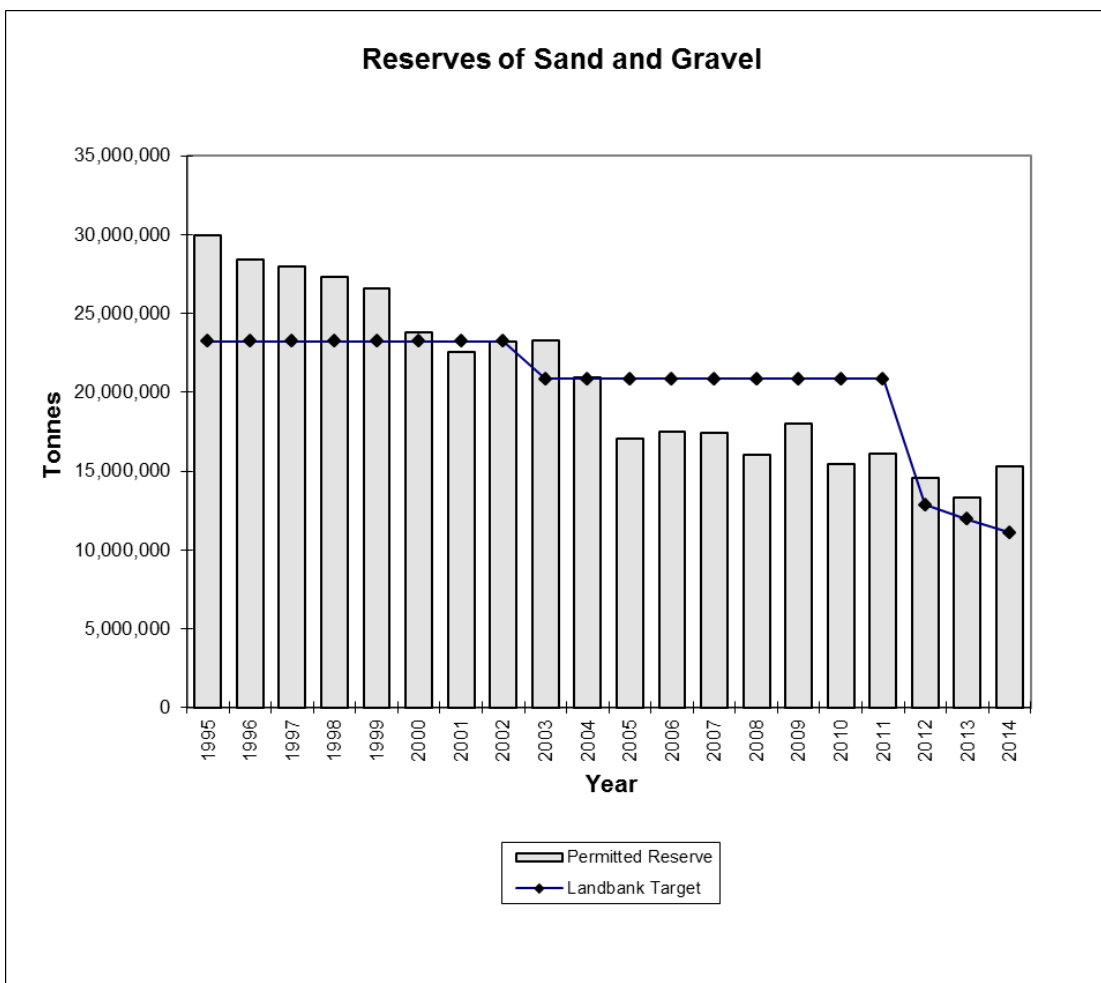
### 2.3 Sand and gravel landbank of permitted mineral reserves

Reserves of sand and gravel at 31 December 2014 were 15,315,934 tonnes, an increase of 15% on the 2013 figure.

The increase in the landbank was due to a number of planning permissions for new quarries or extensions being granted in 2014. The total tonnage permitted was 3.76 million tonnes (mt). When combined with the year's production (1.36 mt) and a reassessment of reserve by a number of operators (down by a total of 0.5 mt) this gave the overall increase in reserve of 15%.

The Norfolk 'Core Strategy and Minerals and Waste Development Management Policies DPD', was adopted by the County Council in September 2011. Policy CS1 of the Core Strategy states that the sand and gravel landbank will be maintained at between 7 and 10 year's supply. An upper limit of 10 years was placed on the landbank in Norfolk to ensure the timely working and restoration of mineral workings. This is because of the nature of mineral working in Norfolk which is undertaken by over ten operators across more than thirty sites.

The landbank at 31/12/2014, based on the 10 year average in the NPPF, was 9.66 years and therefore within the range for the landbank indicated in Policy CS1, and national policy and guidance.



**Figure 2: Sand and gravel reserves/landbank target**  
Source: Norfolk County Council – annual minerals survey

	<b>Sand and gravel</b>
<b>Permitted reserves (as at 31/12/14)</b>	15,315,934
<b>10 year average sales</b>	1,585,050
<b>Resulting Landbank (years)</b>	9.66

**Table 7: Sand and gravel landbank calculation**

Source: Norfolk County Council – annual minerals survey

Policy CS1 sought to provide for the planned provision of a steady and adequate supply of mineral, by indicating a requirement to make specific site allocations having regard to the sub national guidelines (the apportionment), and the 10 year rolling average.

It is important to note that the landbank figures are, as stated in the NPPG, “principally a monitoring tool to provide a Mineral Planning Authority with early warning of possible disruption to the provision of an adequate and steady supply of land-won aggregates”. As landbanks relate to the provision of aggregates, a figure below 7 years for aggregate should be used as a trigger to determine whether a review of the allocations plan is required.

The Mineral Site Specific Allocations DPD allocated 26 sand and gravel sites which contained 2.5mt more than the total tonnage required in CS1, at the point of examination (March 2013). The estimated resource for the 26 sites was 27.51mt compared with a requirement based on policy CS1 of 25.04mt. Table 8 shows the status of all of the sand and gravel specific site allocations in the adopted Minerals Site Specific Allocations Plan.

Norfolk County Council adopted the Mineral Site Specific Allocations DPD in October 2013. By the end of 2014 planning permission had been granted for 4.11mt of sand and gravel, although 0.35mt of this permitted reserve is not expected to be implemented. All mineral planning applications submitted so far for allocated sites have been found suitable and granted permission.

This leaves an estimated further 23.33mt of allocated sand and gravel resource which had not received planning permission at the end of 2014. During 2015 planning applications were in the process of being determined for 4.345mt of allocated sand and gravel resources.

As shown in Table 7, the permitted reserve was 15.316mt on 31/12/2014 and the sand and gravel landbank on 31/12/2014 was 9.66 years. The 10 year average sales of sand and gravel in the period to the end of 2014 were 1.585mt per annum. Based on this 10 year sales average, the remaining allocated sites would provide 14.7 years of sand and gravel resource. This resource plus the existing permitted reserve would last until 2038.

Therefore, the permitted and allocated sites together would provide sufficient resources past the end of the plan period (2026). There is the potential that the allocated and permitted sites in Shropham may not be delivered; together these sites equate to 0.9mt, which equates to approximately 7 months of the current average sales. Without these sites, there would still be sufficient resources past the end of the plan period. On this basis there is not currently a requirement to review the Minerals SSA Plan.

Location (parish)	Site reference	Permission granted	Allocated resources (tonnes)	31/3/2012-31/12/2014 Permitted reserve (tonnes)
<b>Breckland</b>				
Beetley	MIN 10	Planning app in 2015 for part of site (680,000)	2,400,000	
Beetley	MIN 51		1,300,000	
Shropham	MIN 108		150,000	
Shropham	MIN 109		400,000	
Shropham	MIN 110	February 2013	150,000	350,000 ( <i>but not expected to be implemented</i> )
Snetterton	MIN 102		1,500,000	
<b>Broadland</b>				
Attlebridge	MIN 55		525,000	
Buxton with Lammas & Frettenham	MIN 37		1,450,000	
Felthorpe	MIN 48		1,900,000	
Horstead with Stanninghall	MIN 64	Nov 2012 (part of site)	950,000	350,000
Spixworth & Horsham St Faith & Newton St Faith	MIN 96		1,000,000	
<b>King's Lynn and West Norfolk</b>				
Pentney	MIN 19		700,000	
East Rudham	MIN 45	May 2014 (part of site)	3,600,000	1,560,000
Tottenhill	MIN 76		285,000	
Watlington	MIN 75	Planning app in 2015 (335,000)	335,000	
<b>North Norfolk</b>				
Aylmerton	MIN 69		750,000	
East Beckham	MIN 84	August 2014	1,600,000	1,600,000
Holt	MIN 71		1,100,000	
North Walsham	MIN 115		1,100,000	
<b>South Norfolk</b>				
Heckingham & Norton Subcourse	MIN 83	Planning app in 2015 (2,370,000)	674,000	
Heckingham & Norton Subcourse	MIN 91		1,146,000	
Norton Subcourse	MIN 90		511,000	
Stoke Holy Cross	MIN 81	Planning app in 2015 (960,000)	955,000	
Stoke Holy Cross, Swainsthorpe & Swardeston	MIN 79		1,750,000	
Swardeston	MIN 80		760,000	
Wymondham	MIN 118	January 2014	600,000	600,000
<b>Total</b>			<b>27,500,000</b>	<b>4,110,000</b>

**Table 8: Status of sand and gravel site allocations**

Source: Norfolk County Council



### 3. Carstone

#### 3.1 Production

Norfolk County Council carries out an annual survey for carstone production. The totals for the last 10 years are shown in table 4 below, and for the last 20 years in Figure 3 below:

Year	Production
2005	159,454
2006	146,058
2007	196,389
2008	215,633
2009	66,298
2010	58,337
2011	62,308
2012	118,288
2013	37,193
2014	60,189

Table 9: Carstone 10 year sales 2005-2014

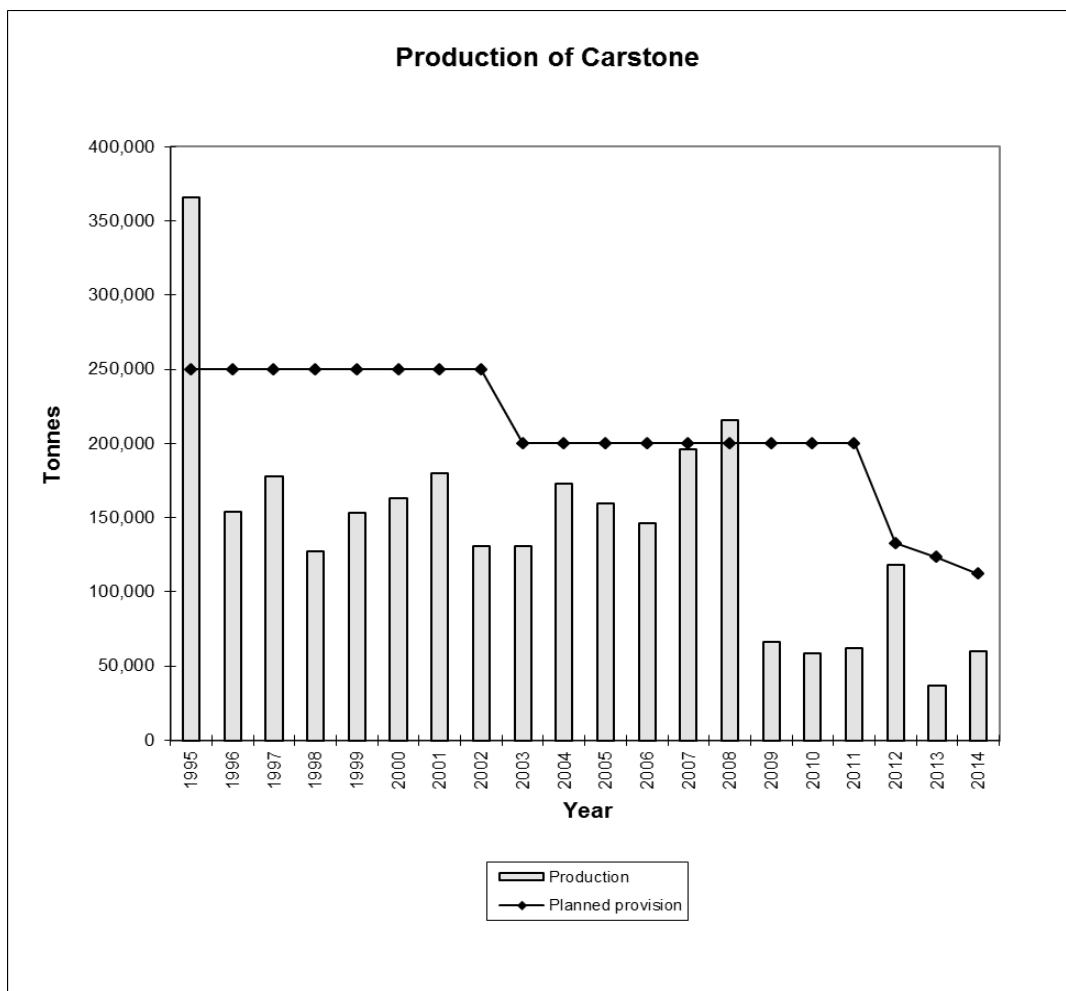


Figure 3: Carstone production 1995-2014

Source: Norfolk County Council – annual minerals survey.

Carstone production in 2014 was 60,189 tonnes, representing an increase of 62% over the 2013 figure. This is substantially below the average for the last twenty years (143,812 tonnes) and the average for the last ten years (**112,015 tonnes**). The NPPG states that the 10 year rolling average should be used in the calculation of aggregate landbanks.

Year	10-Year Average
2011	134,000 t
2012	132,000 t
2013	123,000 t
2014	112,015 t

**Table 10: 10 year rolling average of carstone production for the last four years**

**The rolling 3 year average is 71,890 tonnes per annum.** The production of carstone is concentrated into relatively few workings and the production fluctuates significantly from year to year dependent on individual construction projects that require significant amounts of fill material, as can be seen in table 4 above. These fluctuations mean that the three year rolling average can also vary significantly year to year. This means that it is of less value in helping to identify production trends for carstone compared with sand and gravel. The three year rolling averages for the last 4 years are as follows

Year	3-Year Average
2011	62,314 t
2012	79,644 t
2013	72,596 t
2014	71,890 t

**Table 11: 3 year rolling average of sand and gravel production for the last four years**

The NPPG suggests that the 10 year average, 3 year average and the sub-national guidelines should all be had regard to in order to establish a broad view of mineral demand, especially during reviews of planned provision.

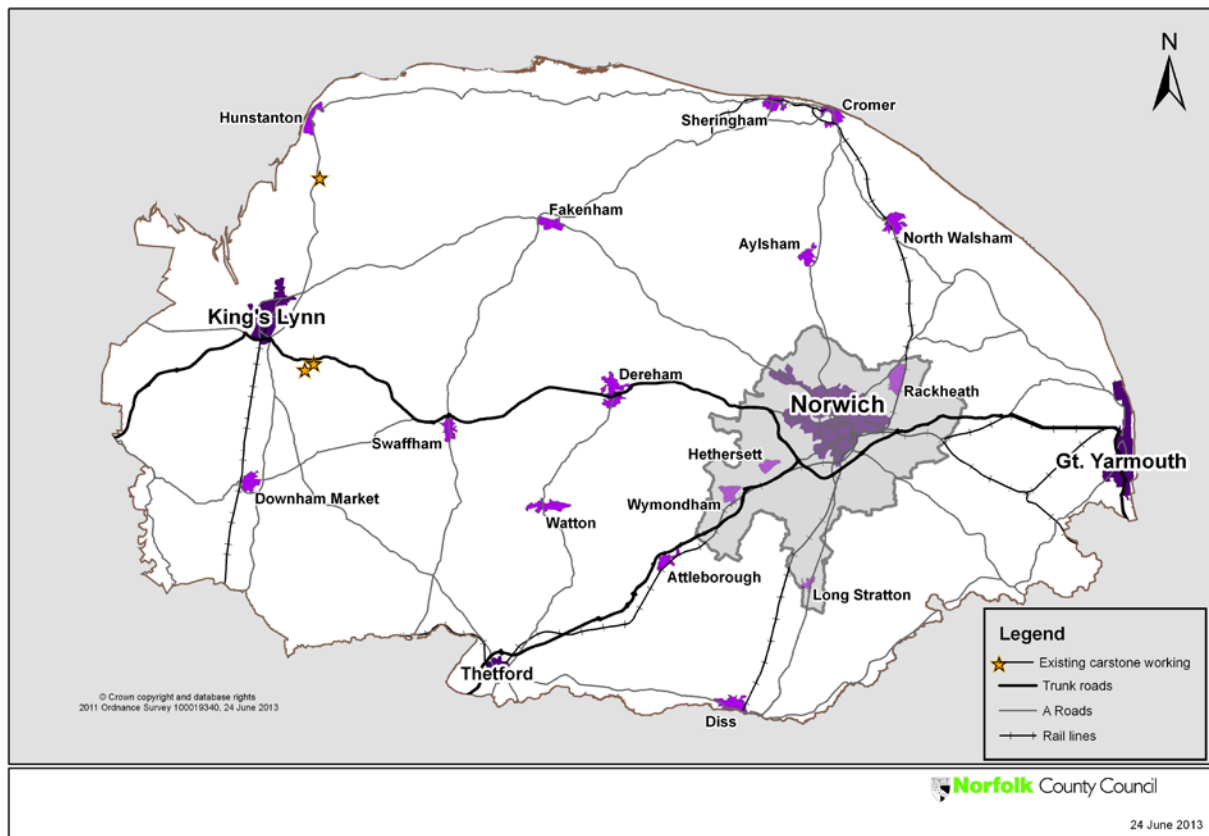
Carstone is mainly used as a construction aggregate, however prior to the introduction of the NPPF and National Planning Policy Guidance carstone was planned as part of the national hard rock requirement. A key part of the MASS was an apportionment system for national need. A national requirement for hard rock was calculated, and this was then divided into sub-national requirements, which were in turn apportioned to individual MPAs as provision to be planned for.

Since the introduction of the NPPF, the MASS guidance has been cancelled and the national and sub-national requirements have become guidelines. These guidelines form part of the information relevant to the calculation of future demand in a Local Aggregate Assessment. The table overleaf shows annual carstone production as a proportion of the apportionment/guideline figure. It can be seen that the apportionment figure has only been met by production once in the last 10 years.

Year	Apportionment	Production	% Apportionment Produced
2005	200,000	159,454	80%
2006	200,000	146,058	73%
2007	200,000	196,389	98%
2008	200,000	215,633	108%
2009	200,000	66,298	33%
2010	200,000	58,337	29%
2011	200,000	62,308	31%
2012	200,000	118,288	59%
2013	200,000	37,193	19%
2014	200,000	60,189	30%

Table 12: Carstone production as a % of apportionment

### 3.2 Carstone extraction sites in Norfolk



Map 3: Carstone extraction sites in Norfolk in 2014-2015

Carstone Extraction		
Parish	Operator	Address
Middleton	Middleton Aggregates	Mill Drove
Snettisham	Frimstone	Norton Hill

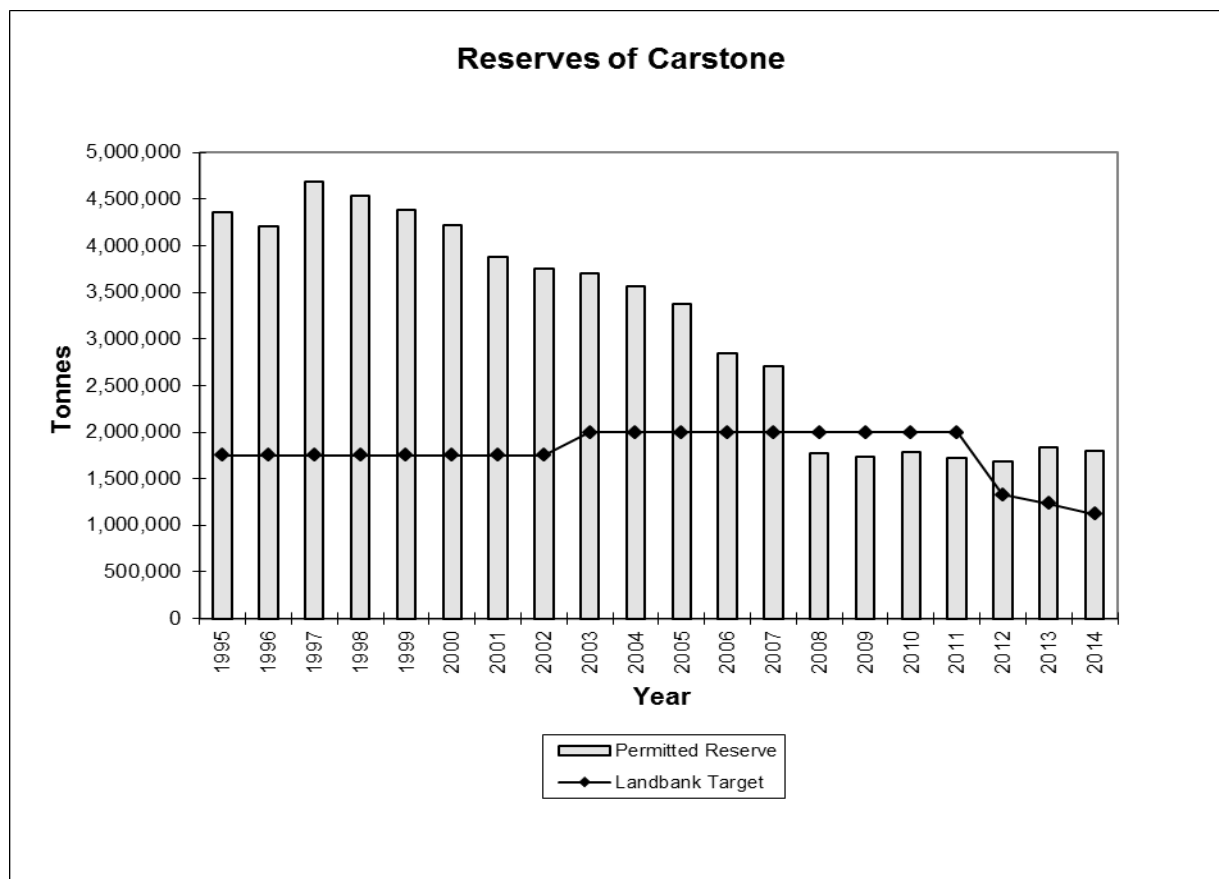
Table 13: Carstone extraction sites in Norfolk in 2014-2015

### 3.3 Carstone landbank of permitted mineral reserves

Reserves of Carstone at 31 December 2014 were 1,795,000 tonnes which represents a decrease of 2.5% from 2013 figures. No new planning permissions were granted in the reporting period and the decrease represents the production of carstone, offset by a slight upward reassessment of the reserves by the operators.

The Norfolk 'Core Strategy and Minerals and Waste Development Management Policies DPD', was adopted by the County Council in September 2011. Policy CS1 of the Core Strategy states that carstone will be maintained at 10 years' supply. The landbank at 31/12/2014 calculated on the 10 year rolling average sales, as set out in the NPPF was 16.02 years, above the figure for the landbank indicated in Policy CS1, and national guidance.

It is important to note that the landbank figures are, as stated in the NPPG, "principally a monitoring tool to provide a Mineral Planning Authority with early warning of possible disruption to the provision of an adequate and steady supply of land-won aggregates". As landbanks relate to the provision of aggregates, a figure below 10 years for crushed rock should be used as a trigger to determine whether a review of the allocations plan is required.



**Figure 4: Carstone reserves/landbank target 1995-2014**  
Source: Norfolk County Council – annual minerals survey.

	<b>Carstone</b>
<b>Permitted reserves (as at 31/12/14)</b>	1,795,000
<b>10 year average</b>	112,015
<b>Landbank (years)</b>	16.02

Source: Norfolk County Council – annual minerals survey.

**Table 14: Carstone Landbank calculation**

## 4. Secondary and recycled aggregate

In addition to its resources of land won aggregates, secondary and recycled aggregates are also sourced within Norfolk:

Secondary aggregates are by-product wastes e.g. power station ash and colliery spoil that can be used for industrial and low-grade aggregate purposes, either solely or when mixed with primary aggregates.

Recycled aggregates are aggregates produced from recycled construction waste such as crushed concrete, planings from road surfacing etc. Secondary and recycled aggregates can replace primary materials for many uses.

Data for the production of recycled and secondary aggregates is limited, and less reliable than that for other types of aggregate. This part of the assessment reviews the recent levels of recycled and secondary aggregate production and the reliability of data to establish whether it would be feasible to reduce the amount of land won mineral required.

### 4.1 Overall inert waste management figures in Norfolk

It is estimated that in 2014/5 over 477,000 tonnes of the inert and construction & demolition waste, received at transfer stations and recycling centres, was recovered. This is an increase on the 2013/2014 figure of 407,000 tonnes and this could be a result of increased construction activity. This figure includes waste recovered at quarries, and sold as recycled aggregates, as well as waste management facilities. The figures from the quarry sites are only included in the last eight years' statistics.

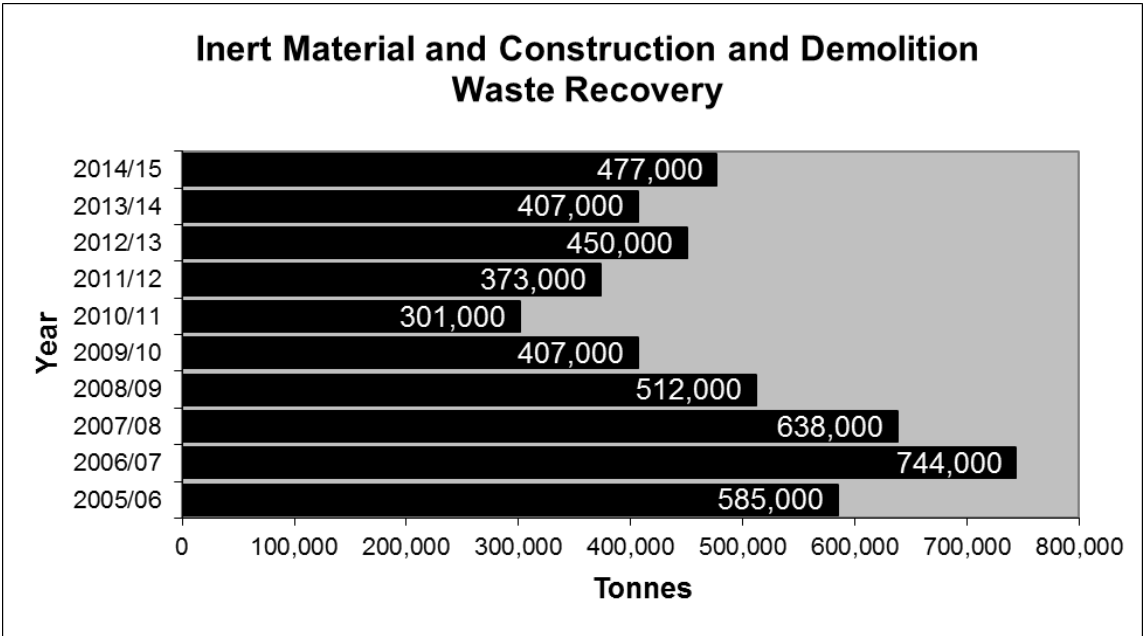


Figure 5: Inert Material and Construction and Demolition Waste Recovery  
Source: Norfolk County Council – annual waste survey/ Environment Agency returns.

The 10 year average figure for inert material and construction and demolition waste recovery is **489,400 tonnes per annum**. This was a decrease on the ten year rolling average for 2013/2014 of 521,000 tonnes per annum. This decrease is as a result of a particularly high year from the peak of the previous housing boom, when a significant number of flatted development on brownfield sites were being developed, being removed from the rolling average. The rolling 3 year average for 2014/2015 is approximately **444,670 tonnes per annum**. This is an increase on the 3 year average for the previous year, which was 410,000 tonnes per annum. This highlights an upward trend in activity for recent years, against a background of still falling long term averages, as construction activity increases following the recession and the very high figures from the last boom are progressively removed from the data. It should be noted that the quantity of inert material and C&D waste reported through waste management facilities excludes that which is used directly on site in place of aggregate. The quantity of inert and C&D waste used directly on site is unreported and therefore cannot be included in the data on secondary and recycled aggregates.

It is difficult to establish the percentage of the recovered material that can be sold as recycled aggregate. Construction Demolition Excavations Waste (CDEW) comprises a range of materials, of which the “hard” elements (e.g. concrete, bricks, stone, road planings, rail ballast and glass) can be recycled for use as aggregates. Other elements of CDEW; due to their “soft” and/or organic nature; (e.g. soil, timber and plasterboard) are unsuitable for aggregate use. There is also a risk for double counting with some of the figures.

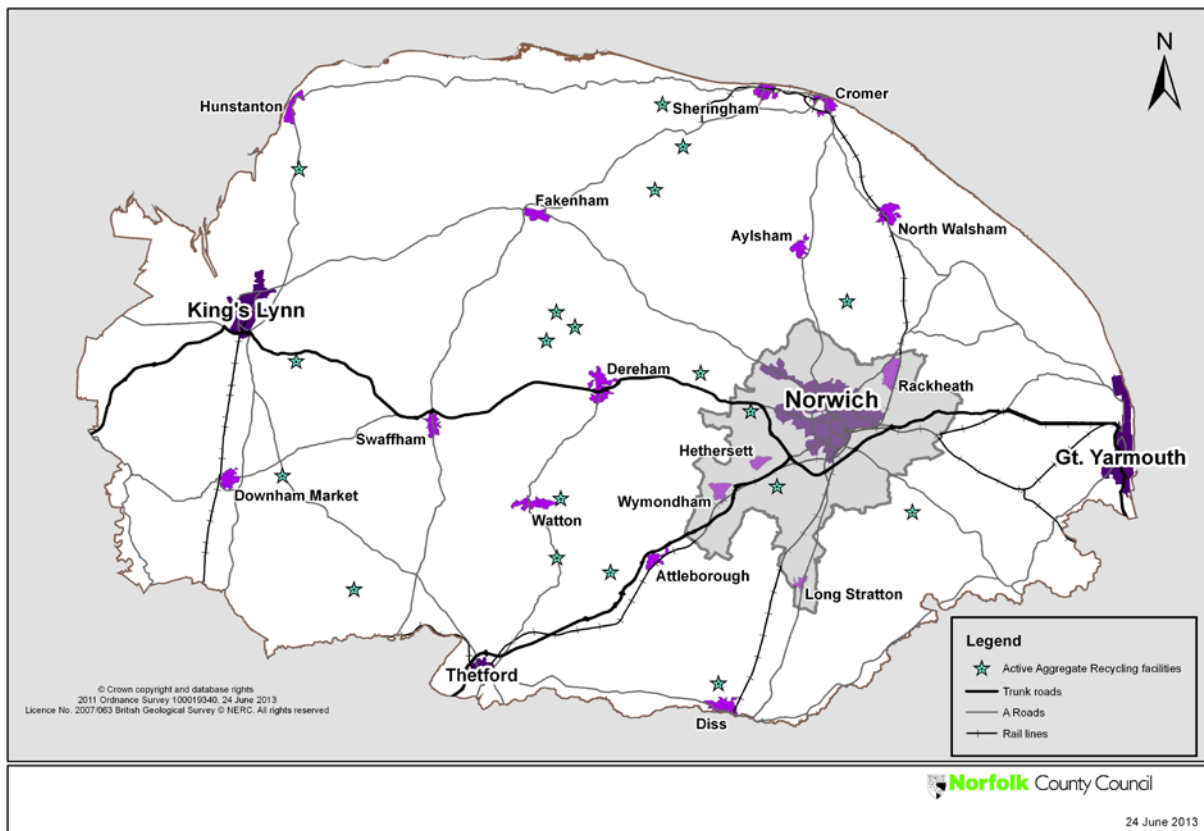
#### **4.2 Recycling Aggregate at Mineral Workings**

Information about the amount of material from recycling aggregate as an ancillary operation at minerals workings is variable. The figure which has been included in the overall quantities of material recovered represents the sales figure of recycled material leaving the quarry site. This is the eighth year that this figure has been reported, however, there does not seem to be any positive correlation between recycled aggregate quantities and construction activity from the data. It may be that the quantities of recycled aggregate are more dependent on the type of site and construction activity than just the amount of activity.

### 4.3 Secondary and Recycled Aggregate Sources

Company	Location
Aylsham Plant Hire Ltd	Aylsham
Richardson Recycling Ltd	Morningthorpe
Carter Concrete	Beeston Regis
Childerhouse, Mr R	Breckles
East Anglian Stone Ltd	Stanfield
E E Green & Son	Great Yarmouth
Frimstone Ltd	Snettisham
Frimstone Ltd	Carbrooke
Frimstone Ltd	West Dereham
Frimstone Ltd	Buxton
Frimstone Ltd	Crimplesham
Glaven Pits Ltd	Letheringsett
Highways Contractors	West Caister
Longwater	Coxford Abbey Quarry, East Rudham
Middleton Aggregates Ltd	Middleton
Middleton Aggregates Ltd	Ketteringham
Middleton Aggregates Ltd	Beetley
Morrissey Builders	Melton Constable
Mr Rounce	Aylmerton
R & C Bettinson	Heywood
R J Holbrook	Shropham
R G Carter	Costessey
T Farrow Construction	Bergh Apton

Table 15: Secondary and Recycled Aggregate Sources in 2014-2015



Map 4: Secondary and recycled aggregate sources in Norfolk over 20,000 tonnes per annum

## **5. Materials sourced outside the County**

### **5.1 Imports and exports**

Quantifying intra county imports and exports has been a longstanding issue. However, the 2009 Aggregate Minerals Survey (AM2009), undertaken jointly between the Department for Communities and Local Government (DCLG) and the British Geological Survey (BGS) provided broad land-won sand and gravel import and export figures for MPAs/ regions. The data within the AM 2009 along with additional information obtained through direct correspondence with the BGS has enabled the County Council to achieve a better understanding of the situation regarding imports and exports. Norfolk is a net importer of crushed rock, and a net exporter of sand and gravel.

A further Aggregate Minerals Survey for the period to 2014 (AM2014) was carried out in June 2015. It is expected that results from AM2014 will be published in spring 2016. An update to this LAA based on these later figures will be carried out following the publication of AM2014 results

### **5.2 Crushed Rock**

Norfolk, due its geology, relies on importation for the majority of its crushed rock (carstone is the only indigenous source and is not suitable for Asphalt production, due to its composition). The majority of this material is imported by rail into Norwich. Information about volumes of material imported through the railhead is commercially confidential. However the Collation of the Results of the 2009 Aggregate Minerals Survey for England and Wales the (AMS2009) indicated that the East of England (4.0 Mt) is one of the main importing regions and that the East Midlands and South West have the largest export figures representing 53 per cent (11.3 Mt), 31 per cent (5.4 Mt) of their respective total crushed rock sales.

Of the total crushed rock consumed in Norfolk (439,000 tonnes Table 11 in AM2009 Collation):

- 35-40% came from quarries within Leicestershire.
- 20-25% came from Derbyshire.
- 15-20% came from outside England and Wales (i.e., was imported via a wharf from locations such as Scotland).
- 14% came from Norfolk (carstone).
- 5-10% came from Shropshire.
- 1-5% came from Yorkshire Dales National Park
- Rutland and North Somerset each supplied less than 1%.
- (NOTE: Powys and Somerset also supplied less than 1% each but the figures are so small as to be a small amount of back haul or specific deliveries).

Source: Collation of the results of the 2009 aggregate minerals survey for England and Wales & British Geological Survey (BGS).



### **5.3 Sand and Gravel**

Norfolk, due to its geology, has considerable sand and gravel resources. The relative weight and value of sand and gravel means that this mineral does not normally travel significant distances, and a number of cross-boundary movements are likely to be as a result of the proximity of mineral workings to the market and therefore transport costs, regardless of their relationship to any administrative boundary, or lack of potential supply in another area.

#### Imports of sand and gravel

Of the total 1,240,000 tonnes of land-won sand and gravel consumed in Norfolk (Table 11 in AM2009 Collation):

- 92% came from quarries within Norfolk.
- Suffolk supplied between 5-10%.
- Cambridgeshire, Central Bedfordshire, and Lincolnshire each supplied less than 1%.
- Peterborough also supplied less than 1% but this was much less than the three MPAs above. Less than 500 tonnes.

(NOTE: Essex and North Lincolnshire also supplied less than 1% each but the figures are so small as to be a single lorry load of back haul or single specific delivery).

#### Exports of sand and gravel

Of the total sales of 1,143,000 tonnes sand and gravel produced in Norfolk (Table 9d in AM2009 Collation):

- 12% 154,000 tonnes was exported to areas within the East of England.
- 2% 27,000 tonnes was exported elsewhere.

Source: Collation of the results of the 2009 aggregate minerals survey for England and Wales

### **5.4 Marine sources**

The last estimate of the total marine sand and gravel consumed in Norfolk was (1,000 tonnes Table 11 in AM2009 Collation):

- Between 90 and 100% was supplied via Kent. This represents less than 1% of total sand and gravel (both land-won and MSG) for Norfolk.
- Between 5-10% was supplied via Norfolk. This represents much less than 1% of total sand and gravel (both land-won and MSG) for Norfolk

Source: Collation of the results of the 2009 aggregate minerals survey for England and Wales & British Geological Survey (BGS).

## 6. Supply and Demand Assessment

### 6.1 Supply

The NPPF paragraph 145 states that “.....minerals planning authorities should plan for a steady and adequate supply of aggregates,” based on a rolling average of 10 years sales data, other relevant local data and an assessment of all supply options. The sand & gravel and carstone quarries in the Norfolk and the recycling sites have been listed in the previous section of the report. The total sales of aggregates in Norfolk are shown in table 7 below.

Year	Sand & Gravel	Carstone	Secondary & Recycled	Imports		Marine
				Crushed Rock	Sand and Gravel	
2003	2,488,000	131,000	486,000	No Available Information	No Available Information	
2004	2,560,000	173,100	793,000			
2005	2,381,000	159,454	585,000			
2006	2,449,000	146,058	744,000			
2007	1,978,000	196,389	638,000			
2008	1,584,000	215,633	512,000			
2009	1,377,000	66,298	407,000			
2010	1,196,000	58,337	301,000	439,000	100,000	1,000
2011	1,289,000	62,308	373,000	No Available Information		
2012	1,132,000	118,288	450,000			
2013	1,114,000	37,193	407,000			
2014	1,359,620	60,189	477,000			
Average 2005-14	1,585,050	112,015	See para 4.1			

**Table 16: Total aggregate sales in Norfolk**

Source: Norfolk County Council – annual surveys/Environment Agency returns/ BGS AM2009 (rounded).

#### Sand and gravel supply

The data in section 2.3 shows that the sand and gravel landbank of permitted reserves equates to 9.66 years at the end of 2014, which is above the 7 year minimum target for permitted reserves required by the NPPF. Norfolk County Council has also allocated sufficient land in the Mineral Site Specific Allocations DPD to ensure provision of a steady and adequate supply of aggregate for the county up to the end of 2026. Imports of sand and gravel into Norfolk are significantly less than exports.

#### Carstone supply

The data in section 3.3 shows that the carstone landbank of permitted reserves equates to 16.05 years which is above the 10 year target for permitted reserves required by the NPPF. Norfolk County Council has also allocated sufficient sites in the Mineral Site Specific Allocations DPD to meet the provision of a steady and adequate supply of carstone required for the county up to the end of 2026. There are significant imports of crushed rock into Norfolk due to the unsuitability of carstone for more demanding uses.

The Council is therefore satisfied that an adequate and steady supply of minerals covered by this Local Aggregate Assessment will be met by the permitted reserves. Any potential increase in demand would be met by the adopted Mineral Site Specific Allocations.

The landbank figures gives no indication that there is any current need to review the planned provision in this allocations plan.

## **6.2 Demand**

### **Population & housing growth**

Forecasts produced by Norfolk County Council indicate that the county's population is likely to grow from 857,900 in 2011 to 949,500 by 2026 an increase of 11%. Accommodating this forecast population increase will be achieved through development planned for by Norfolk's Local Planning Authorities. The Greater Norwich Growth Board (GNGB) is the body through which Broadland District Council, Norwich City Council, South Norfolk Council, Norfolk County Council, and the Broads Authority are working together to manage the delivery of growth. In the period between 2001 and 2026 the area is planning for 42,000 new dwellings (18,937 completions up to 2014) and 27,000 new jobs in the period between 2008 and 2026. Breckland District Council is planning for 19,100 dwellings (7,124 completions up to 2014) in the period between 2001 and 2026 and 6,000 jobs. Great Yarmouth Borough Council's emerging strategy is planning for 4,500 dwellings over the period between 2013 and 2028 (3,308 completions up to 2014) and 3,750 jobs. The Borough Council of King's Lynn and West Norfolk is planning for 16,500 dwellings (8,093 completions up to 2014) in the period between 2001 and 2026 and 5,000 jobs (2001-21). North Norfolk District Council is planning for 10,100 dwellings (4,044 completions up to 2014) and 4,000 jobs in the period between 2001 and 2021. The completion rates show that there remains a number of new dwellings to be built between now and the end of the plan period. These new dwellings will all require aggregate materials for their construction, although modern methods of construction use considerably less aggregate than methods used in previous decades, and this decline in the intensity of aggregate use has been a continuing trend over a number of years.

Housing development is key to meeting the growth requirement in plans and is generally accompanied by other types of development such as roads, drainage, schools, health facilities, employment and retail. In addition, housing and related developments involve the use of alternative aggregates as well as primary aggregates.

### **Exports of Sand and Gravel**

Norfolk is a net exporter of sand and gravel, although it is considered that a significant number of these exports are likely to be as a result of transport costs, due to the proximity of a sand and gravel working in Norfolk compared with one in the neighbouring county. However, as neighbouring Mineral Planning Authorities plan to supply the demand in their areas suitable resources are allocated within these areas to meet this demand, and it does not need to be planned for in Norfolk.

## Infrastructure projects

There are a number of key infrastructure initiatives planned in the County to support the anticipated level of growth. Projects such as:

Location	Projects
Rural Norfolk	Broadband
Attleborough	Town centre transport improvements
	A11 link road
	Wastewater treatment
	Snetterton energy supply
Downham Market	Sewerage upgrades
Great Yarmouth	Third River Crossing
	A12 junction improvements
	Vauxhall roundabout improvements
	Gapton Hall roundabout improvements
	Harfreys roundabout improvements
	Great Yarmouth local junctions
	A12/A143 link road
	Strategic flood defence
	Wherry Line rail improvements and train station improvements
	Acle Straight dualling
King's Lynn	Middleton/East Winch bypass
	Hardwick Junction
	Other A47 junctions
	Town centre gyratory improvements
	Hospital roundabout improvements
	New bus station
	Increased surface water storage
	Sewerage improvements
	Reinforcement of medium pressure gas system.
	Reinforcement of electricity network
	Strategic flood risk
	Fenline rail improvements
Norwich Policy area	Blofield to Burlingham dualling
	Postwick Hub
	Norwich Distributor Road
	North East sub-station improvements
	North East trunk sewer
	Bittern Line rail improvements
	Harford – sustainable transport corridor
	Thickthorn – junction, P+R & bus priority
	B1108/NRP traffic signals
	South West Norwich sewerage upgrade
	Easton/Longwater junction improvements
	Public transport, walking and cycling improvements
	Easton to North Tuddenham dualling
	Honingham “expressway”
	Wymondham water supply connection
	Wymondham electricity upgrades
	Norwich to Cambridge Rail
	Long Stratton bypass
	Long Stratton water supply
	Long Stratton sewer upgrades

Location	Projects
	Hapton electricity upgrades
	Norwich to London Rail
Thetford	A11 junction improvements
	Bus station relocation
	Sewerage upgrades
	Electricity sub station
Wisbech fringe	Electricity reinforcement
	Bypass improvement
	Sewerage & drainage upgrades

**Table 17: Infrastructure projects planned in Norfolk**

### 6.3 Conclusion

Norfolk's share of the sub-national guideline figures (the apportionment) for sand and gravel of 2.57 million tonnes per annum and carstone of 0.2 million tonnes per annum represent higher figures than the locally derived figures. These higher figures were used in Core Strategy Policy CS1 as the basis for allocations to plan for the provision of a steady and adequate supply of aggregate and provide flexibility.

Average annual sales of 1.58 million tonnes for sand and gravel and 112,000 tonnes for carstone (as at 31/12/14) have been derived from a sales based assessment compliant with the NPPF and NPPG. In order to provide for flexibility to cater for a potential increase in demand, or a change in circumstances affecting the amount of mineral delivered from specific sites (as required by paragraph 14 of the NPPF) and having taken into account the 10 year rolling average of 2.05mt (as at 31/12/2010) the 'apportionment' figure was used to calculate the amount of allocations required in policy CS1. The Mineral Planning Authority does not consider it prudent at this time to base allocations purely on a rolling average of ten years sales, as flexibility is required in allocations. Having regard to all of the figures in this LAA, it is considered that the CS1 figure still represents a suitable figure on which to base allocations to achieve an adequate and steady supply of aggregate over the plan period. The Mineral Planning Authority will continue to monitor this trend.

The Minerals and Waste Plan is up to date in relation to the supply of aggregate, and the County Council considers that the sand and gravel allocations within the plan to meet the CS1 target are deliverable. Therefore, it is not considered necessary, at the present time, to conduct a review into the aggregate allocations in the plan. Norfolk County Council is currently undertaking a Single Issue Silica Sand Review of the Minerals Site Specific Allocations Plan, which is at a Preferred Options Stage. Silica Sand is a nationally important industrial mineral and is not used for aggregate uses in Norfolk.

The figures for aggregate need were apportioned to MPAs by the East of England Regional Aggregates Working Party (EoEAWP) based on national guidelines. The EoEAWP has a valuable role in co-ordinating mineral provision and has decided that it is appropriate for all MPAs in the East of England to continue to work with the 2009 EoEAWP apportionment figure for the foreseeable future in planning for future provision. Paragraph 145 of the NPPF states that, these figures should still be taken into account, as a guideline, as part of the process for determining future demand for, and supply of, aggregates.

The 2005-2020 apportionment figures are based on a sound and thorough assessment of national need, which has been debated in detail by all members of the EoEAWP, which includes representatives of all mineral planning authorities in the area and mineral operators. The methodology underlying the assessment of national need (2005-2020) was based on an assumption of continued growth especially in housing construction throughout the period, this has been significantly affected by the recession.

**Secondary & Recycled Provision Allowance to 2026** – the locally derived data available on secondary and recycled aggregate is variable and not considered completely reliable. This makes it difficult for Norfolk County Council to reduce the level of land won aggregate provision on this basis. The government carries out studies on secondary and recycled aggregate arisings in England, the most recent being in 2005 by DCLG. The work carried out to produce the aggregate apportionment figures for the period 2005-2020 took account of the capacity of facilities to provide recycled and secondary aggregates i.e. the assumptions are built in to the apportionment figure. This enabled the apportionment figures to be set at a lower level than they otherwise would have been. The Council intends to carry forward the apportionment figures for aggregates and consider that this figure does not require any further adjustment to reflect secondary and recycled aggregate provision.

**Marine Sources Requirement to 2026** – the total of 1,000 tonnes of marine sourced aggregate represents such a small percentage of the total aggregates used in Norfolk it is not proposed to make any adjustments to the mineral requirement figures moving forward.

## 7 Silica Sand

The high quality silica sand extracted at Leziate, in Norfolk is not used as an aggregate it is an essential raw material for many industrial processes, including the manufacture of glass. Norfolk is one of the most important sources of silica sand in Britain, accounting for over 10 per cent of total output and a much larger proportion of glass sand production.

The 10 year average production for the Leziate site for 2005-2014 was 636,500 tonnes. This is a slight decrease on the previous 10 year average (2004-2013) of 665,600 tonnes.

Year	10-Year Average
2011	N/A
2012	N/A
2013	665,600
2014	636,500

**Table 18: 10 year rolling average of silica sand production**

The three year average of silica sand extraction in Norfolk from 2012-2014 was 790,400 tonnes. This is an increase on the previous three year average (from 2010-2012) of 777,100 tonnes. This increase in production is as a result of an increased demand for Leziate sand as silica sand sites in other parts of the country reach the end of their working lives.

Year	3-Year Average
2009	609,000
2010	615,000
2011	669,000
2012	652,000
2013	777,100
2014	790,400

**Table 19: 3 year rolling average of silica sand production**

The silica sand reserve at 31/12/2014 was estimated at 3.5 million tonnes. This represents a landbank of 5.5 years based on the 10 year average figure, this is less than the “at least” 10 years for individual silica sand sites required in the NPPF. No planning applications have been submitted for silica sand extraction in 2014. The Minerals Site Specific Allocations Plan allocated a site (MIN 40) for silica sand extraction; this site contains an estimated resource of three million tonnes. This represents a shortfall based on the amount planned for in Core Strategy Policy CS1 which was based on a forecast production volume of 750,000 tonnes per annum.

- A single issue review of silica sand will be undertaken in 2015 to address this predicted shortfall. The initial stage of this review will be consultation with stakeholders regarding the methodology to be followed by the review. This will be followed by a call for sites.

Proposers of potential allocations will need to recognise the need to comply with relevant legislation, in particular that which relates to the protection of International and

European protected habitats and species, to which the precautionary principle applies, whilst recognising that silica sand is a mineral of national importance.

Landowner willingness for mineral extraction will also be a key factor.

All of the proposed allocations put forward for silica sand extraction, in the Mineral Site Specific Allocations process, with the exception of MIN 40, were either deemed unacceptable as a result of uncertainty regarding likely significant effects on designated sites, or were withdrawn from the allocations process by the landowner.

## 8 Other minerals worked in Norfolk

A number of other minerals besides sand and gravel, carstone and silica sand are worked on a minor scale in Norfolk. Demand for these minerals is such that they are not included in the planned provision of the Minerals and Waste Core Strategy, instead being dealt with on a case by case basis through the planning application process. The table below gives details of the other mineral workings in Norfolk.

<b>Clay Workings</b>		
<b>Parish</b>	<b>Operator</b>	<b>Address</b>
Middleton	Middleton Aggregates	Setch Road

<b>Chalk Extraction</b>		
<b>Parish</b>	<b>Operator</b>	<b>Address</b>
Caistor St Edmund	Needham Chalks Ltd	Norwich Road
Hillington	West Norfolk Super Lime	Grimston Road
Castle Acre	Needham Chalks Ltd	Dunham Road

**Table 20: Other minerals worked in Norfolk in 2014-2015**



## 9. Glossary

**Aggregate Minerals:** hard, granular materials which are suitable for use either on their own or with the addition of cement, lime or a bituminous binder in construction.

**Apportionment (Minerals):** The splitting of national supply guidelines for minerals demand between Minerals Planning Authorities or sub regions.

**Area of Outstanding Natural Beauty:** designated under the National Parks and Access to the Countryside Act 1949 for the purposes of preserving and enhancing their natural beauty.

**British Geological Survey (BGS):** A partly publicly funded body whose purpose is the advancement of geoscientific knowledge of the UK landmass and its continental shelf through survey, research and monitoring.

**Core Strategy (for Minerals and Waste):** This planning policy document contains the vision, objectives and strategic planning policies for minerals and waste development in Norfolk until 2026. The Minerals and Waste Core Strategy also includes Development Management policies which are used in the determination of planning applications to ensure that minerals extraction and associated development and waste management facilities can happen in a sustainable way.

**Development Management:** The process through which the Council determines whether a proposal for development should be granted planning permission, taking into account the development plan and any other material considerations.

**Development Plan:** This includes adopted Local Plans and neighbourhood plans and is defined in section 38 of the Planning and Compulsory Purchase Act 2004 (as amended) that set out the planning policies and proposals for the development and use of land. Decisions on planning applications must conform to the Development Plan, unless material considerations indicate otherwise.

**East of England Aggregate Working Party:** Established in the 1970's to identify and consider problems in the supply of aggregates. They provide technical advice in relation to the supply of, and demand for, aggregates in the East of England (including sand, gravel and crushed rock) to the Secretary of State, local government and mineral planning authorities.

**Examination:** Local Plans are subject to an independent examination by an independent planning inspector. The recommendations in the Inspectors report will inform the final adopted version, but are no longer legally-binding.

**Industrial Minerals:** Minerals which are worked for their commercial value, which are not fuel (fuel minerals or mineral fuels) and are not sources of metals (metallic minerals). In Norfolk, silica sand is the only industrial mineral currently extracted.

**Landbank:** A stock of mineral reserves with planning permission for their extraction.

**Local Plan:** The plan for the future development of the local area, drawn up by the local planning authority in consultation with the community. In law this is described as the development plan documents adopted under the Planning and Compulsory Purchase Act 2004 (as amended). Current core strategies or other planning policies, which under the regulations would be considered to be development plan documents, form part of the Local Plan. The term includes old policies which have been saved under the 2004 Act.

**Managed Aggregate Supply System (MASS):** guidance which firstly set out future national needs and targets for aggregate minerals for a period of years and then subdivided this into regional needs and targets. Regional Aggregate Working Parties then apportioned the regional targets to individual Mineral Planning Authorities for incorporation into Minerals Local Plans. Secondly MASS guidance also set out how items such as landbanks should be calculated and used in the determination of planning applications for minerals. The policy and guidance was cancelled by the publication of the NPPF in 2012.

**Mineral Planning Authority:** An organisation with statutory planning powers relating to minerals development, in most areas the County or Unitary Council.

**Mineral Resources:** Natural concentrations of minerals in or on the Earth's crust that are or may become of economic interest because they are present in such a form, quality and quantity that there is potential for eventual economic extraction.

**National Planning Policy Framework:** This document sets out the Government's planning policies for England and was published on 27 March 2012. The NPPF must be taken into account in the preparation of Local and neighbourhood Plans, and is a material consideration in planning decisions. It states that in order to be considered sound a Local Plan should be consistent with national planning policy.

**National Planning Practice Guidance:** A web-based resource published by the Department for Communities and Local Government (DCLG) on 6 March 2014 and updated as needed. It is available at:  
<http://planningguidance.planningportal.gov.uk/blog/guidance/>

**Permitted reserves:** Saleable minerals in the ground with planning permission for extraction. Usually expressed in million tonnes.

**Restoration:** Operations designed to return an area to an acceptable environmental state, whether for the resumption of the former land use or for a new use following mineral working. Involves the reinstatement of land by contouring, the spreading of soils or soil making materials etc.

**Site Specific Allocations: Also known as Specific Sites** - where viable resources are known to exist, landowners are supportive of minerals development and the proposal is likely to be acceptable in planning terms. Such sites may also include essential operations associated with mineral extraction. This is the preferred way to plan for the steady and adequate supply of minerals as it provides the necessary certainty on when and where development may take place.

**Site of Specific Scientific Interest (SSSI):** Sites designated by Natural England under the Wildlife and Countryside Act 1981

**Special Areas of Conservation (SAC):** SSSIs given special protection under the European Union's Habitats Directive, which is transposed into UK law by the Habitats and Conservation of Species Regulations 2010.

**Special Protection Areas (SPA):** SSSIs which have been identified as being of international importance for the breeding, feeding, wintering or the migration of rare and vulnerable species of birds found in European Union countries. They are European designated sites, classified under the EC Directive on the Conservation of Wild Birds.