Norfolk County Council

Norfolk Minerals and Waste Development Framework

Eighth Annual Monitoring Report
Mineral Data
Local Aggregate Assessment
2011

August 2013

Norfolk County Council
at your service

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Price: Free

Note

This report covers the same period of time as the AMR (November 2012). As part of the Minerals Site Specific Allocations DPD Examination in Public (March 2013), Norfolk County Council were required to submit mineral data in a form consistent with a Local Aggregate Assessment. This was submitted in response to matters raised by the Planning Inspector and formed part of the discussion at the Examination hearing sessions. This report is a collation of the information submitted to the examination and is presented as a Local Aggregate Assessment. This report has been assessed by the members of the East of England Aggregate Working Party (EoEAWP), and consideration has been given to the technical advice from the EoEAWP

Contents

1. List of Tables

2. List of Figures

Maps

Introduction

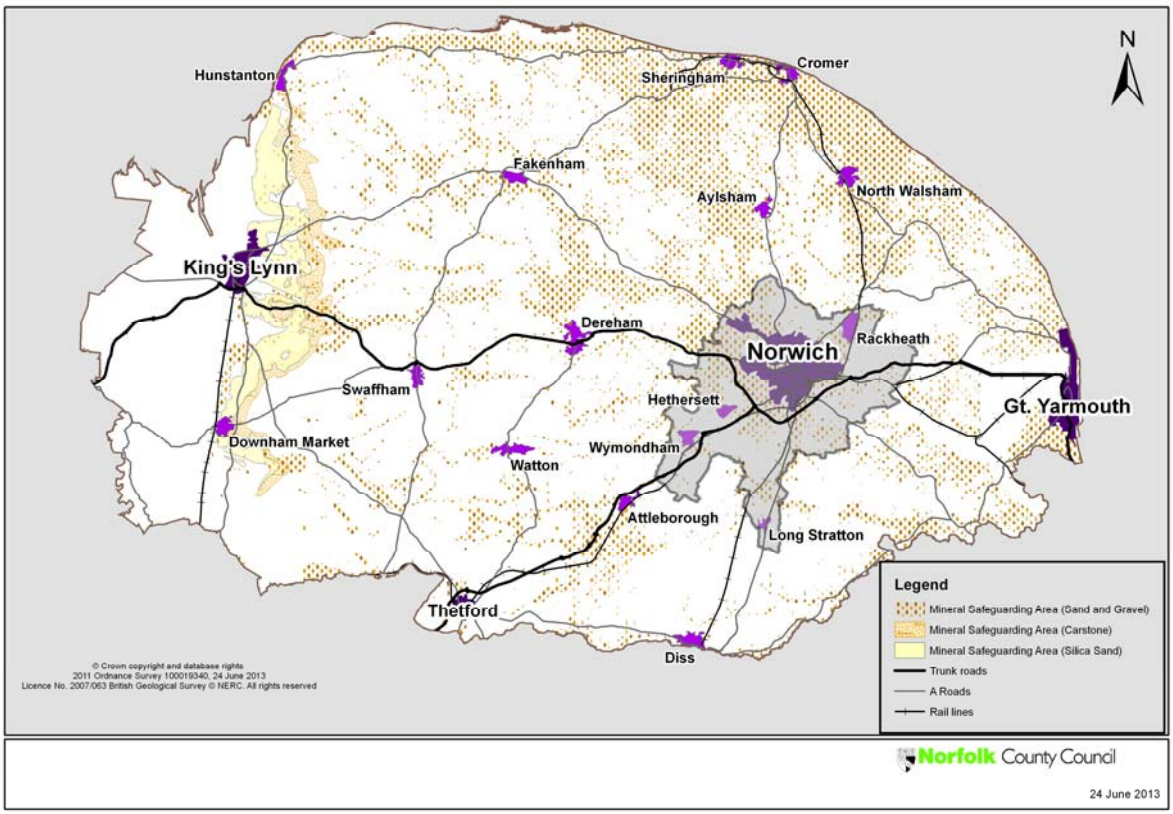
The National Planning Policy Framework (NPPF) (March 2012) paragraph 145 requires Mineral Planning Authorities to plan for a steady and adequate supply of aggregates by determining their own levels of aggregate provision based on a rolling average of 10 years sales data and other relevant local information.

The government produced guidance on the Managed Aggregate Supply System (MASS) in October 2012 which states that "*Local Aggregate Assessments (LAA) should seek to provide an assessment of the demand for and supply of aggregates in the Mineral Planning Authorities area.*" It also recommends that LAAs include:

- A forecast of future mineral requirements based on a rolling average of sales over a ten-year period, based on local land-won minerals; secondary and recycled materials; and materials sourced outside the county,
- An analysis of all aggregate supply options,
- An assessment of the balance between demand and supply, and the economic and environmental opportunities and constraints that might influence the situation.

This is the first LAA prepared by Norfolk County Council 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.

Minerals 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 may restrict mineral activities.

Sand and Gravel

2.1 Production

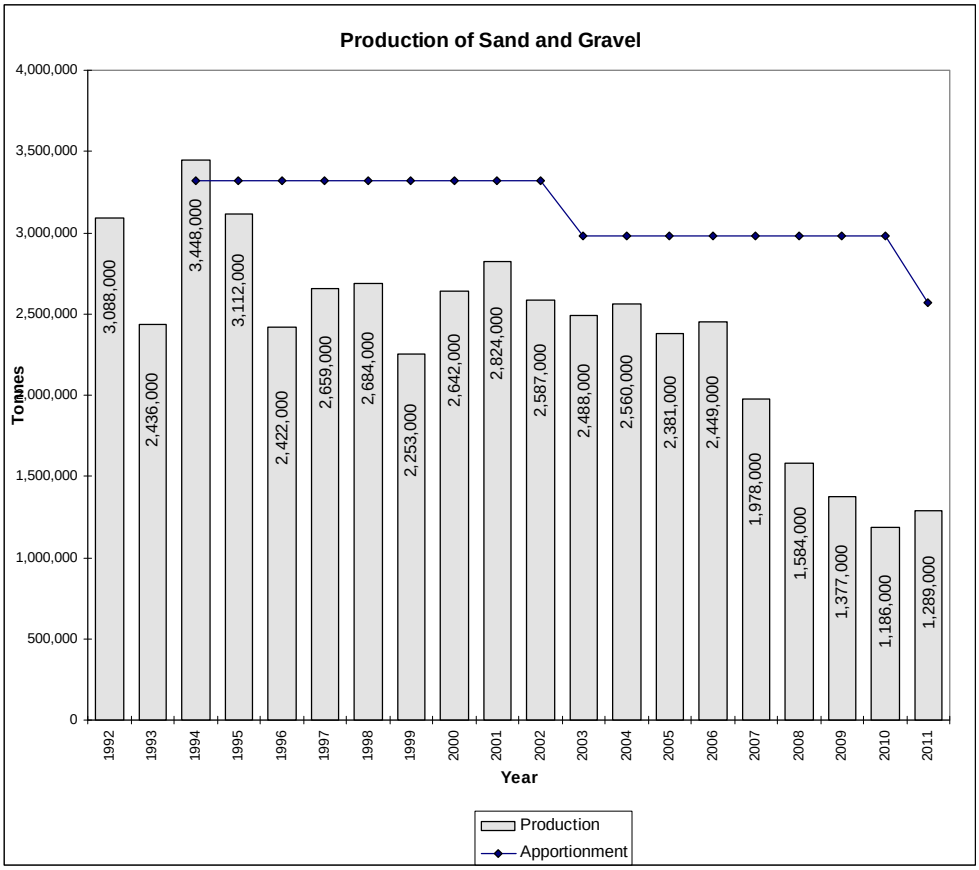
The data recorded in the Council's Annual Monitoring Report (AMR) for sand and gravel production is shown in table 1 below:

Table 1: Sand and gravel 10 year sales 2002-2011

Year	Production
2002	2,587,000
2003	2,488,000
2004	2,560,000

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

Figure 1: Sand and gravel sales 1992-2011

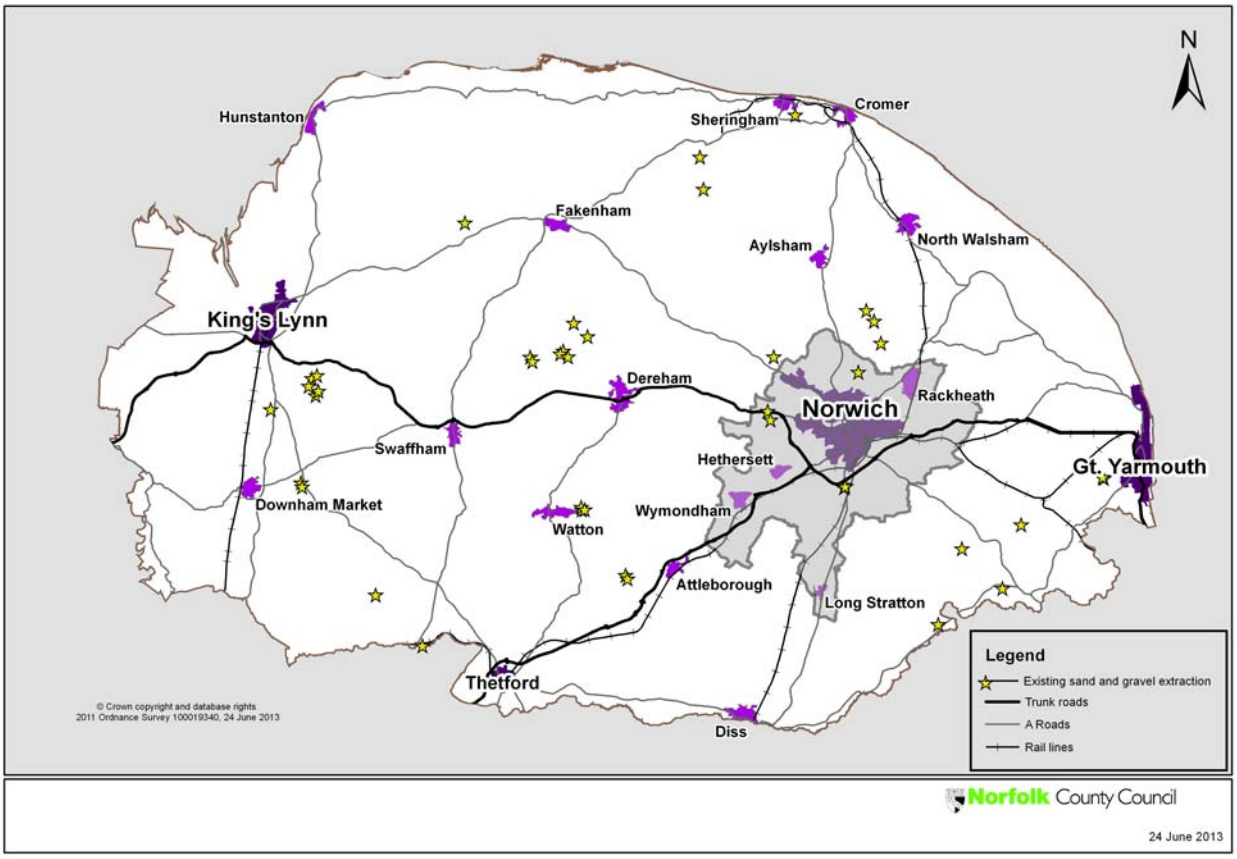


Source: Annual Monitoring Report 2012 – Norfolk County Council.

Sand and gravel production in 2011 was 1,289,000 tonnes, representing an increase of 8% over the 2010 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 2.37 million tonnes (mt) per annum. **The resulting average over the last 10 years is 1.99 million tonnes per annum.**

The rolling 3 year average is **1.28 millions tonnes** per annum. This highlights a downward trend in recent years.

2.2 Sand and Gravel Quarries in Norfolk in 2011.



Sand and Gravel extraction		
Parish	**Operator**	**Address**
Beeston Regis	Carter Concrete	Britons Lane
Attlebridge	Cemex	Reepham Road
Costessey (Long Dale)	Longwater Gravel	Alex Moorhouse Way, Longwater Ind Est
Holt	Cemex	Ducks Hole Farm, Hunworth Road
Bittering	Tarmac	Reed Lane
Litcham	East Anglian Stone	Punch Farm, Watery Lane
Crimplesham	Frimstone	Main Road
Tottenhill	Cemex	Watlington Road
Wormegay	Delta Roadstone	New Road
Pentney	Middleton Aggregates / Tarmac	Abbey Farm
Middleton	Middleton Aggregates	Mill Drove
Earsham	Earsham Gravels	Bath Hills Road
Kirby Cane	Pallet Group Ltd	Leet Hill, Yarmouth Road
Carbrooke	Four Leaf Enterprises	Mill Lane
Shropham	Ennstone Johnston	Swangey Lane
Easton	Lafarge	County Showground
Stanfield	East Anglian Stone	Nr Highfields Lodge on B1146
Feltwell	Frimstone	Lodge Road

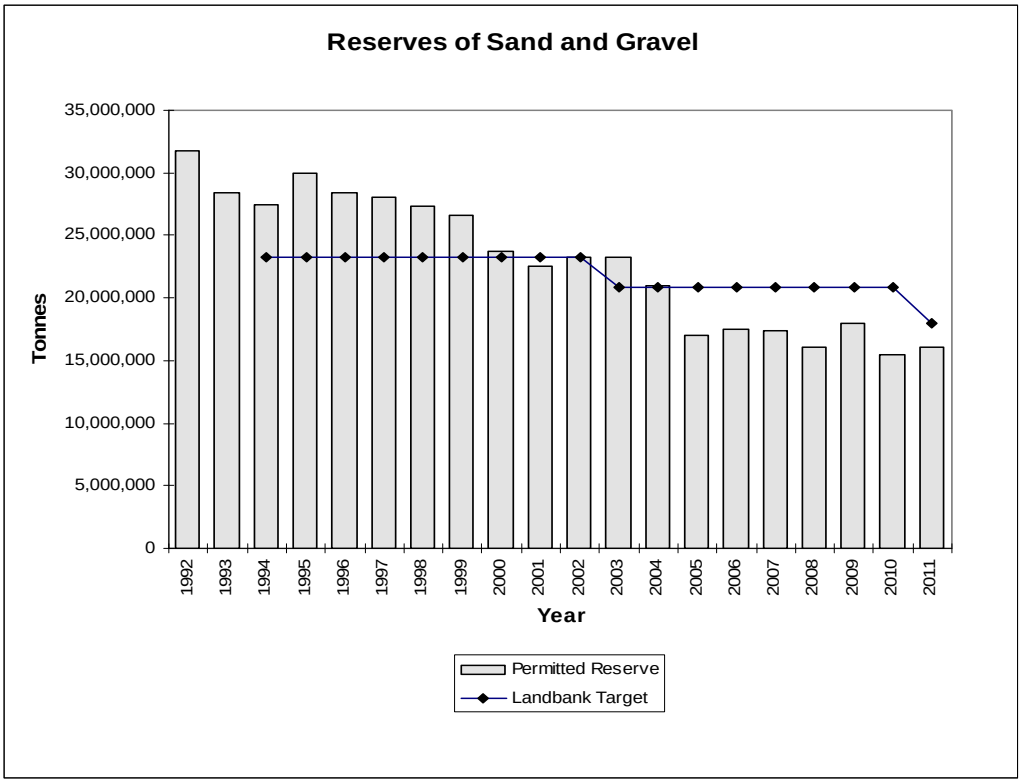
Sand and Gravel extraction		
Parish	**Operator**	**Address**
Burgh Castle	Folkes Plant	Butt Lane
Raveningham / Norton Subcourse	Cemex	Loddon Road
East Bilney	Middleton Aggregates	Rawhall Lane
Spixworth	Lafarge	Grange Farm, Buxton Road
Coxford	Longwater Gravel	Abbey Quarry, Docking Road
Middleton	Delta Roadstone	Mill Drove
Carbrooke	Frimstone	Summer Lane
Mundham	Earsham Gravels	Mundham Road
Easton (Longdell Hills)	Cemex	Costessey Quarry, Longdell Hills
Weeting	Lignacite	Off High Street, Brandon
Horstead	Longwater Gravel	Grange Farm, Buxton Road, Horstead
Horstead	Tarmac	Trafford Estate, Horstead
Buxton (Mayton Wood)	Frimstone	Adj Mayton Wood Landfill
Swardeston (Mangreen)	Lafarge	Mangreen Hall Farm
Stody Estate	Frimstone	Breck Farm, Melton Constable

Table 2: Sand and gravel quarries in Norfolk in 2011

2.3 Sand and gravel landbank of permitted mineral reserves

Reserves of sand & gravel at 31 December 2011 were 16,079,000 tonnes, an increase of 4% on the 2010 figure. The slight increase in reserve is due to two new planning permissions being granted and the re-assessment of reserves by a number of operators.

Figure 2: Sand and gravel reserves/landbank target



Source: Annual Monitoring Report 2012 – Norfolk County Council.

Table 3: Sand and gravel Landbank calculation

	Sand and gravel
Permitted reserves (as at 31/12/11)	16,079,157
Annual apportionment	2,570,000
Landbank (years)	6.3

Source: Annual Monitoring Report 2012 – Norfolk County Council.

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. The landbank at 31/12/2011 was therefore below the landbank indicators in Policy CS1.

3 Carstone

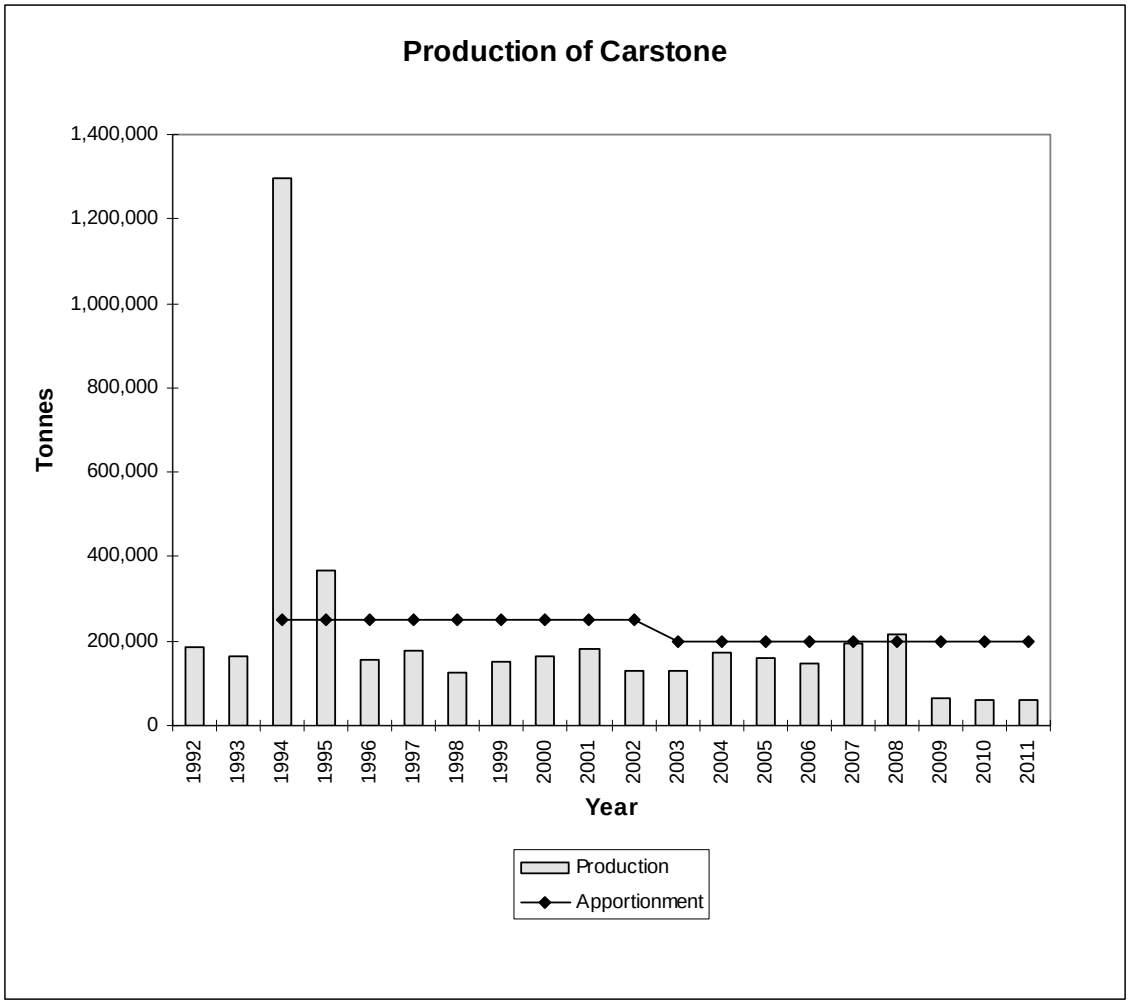
3.1 Production

The data recorded in the Council's Annual Monitoring Report (AMR) for carstone production is shown in Table 4 and Figure 3 below:

Table 4: Carstone 10 year sales 2002-2011

Year	Production
2002	131,000
2003	131,000
2004	173,100
2005	159,454
2006	146,058
2007	196,389
2008	215,633
2009	66,298
2010	58,337
2011	62,308

Figure 3: Carstone sales 1992-2011

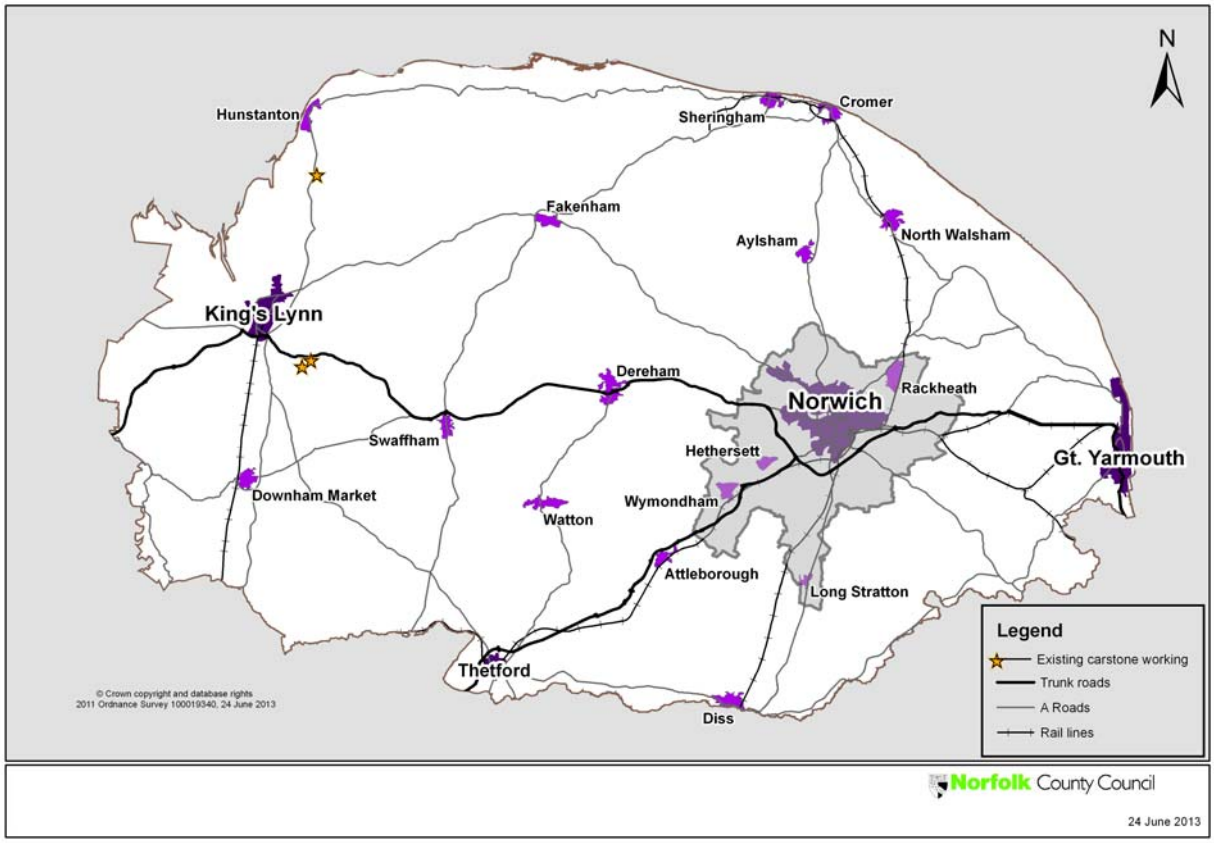


Source: Annual Monitoring Report 2012 – Norfolk County Council.

Carstone production in 2011 was 62,000 tonnes, representing an increase of 6% over the 2010 figure. This is substantially below the average for the last twenty years (215,000 tonnes) and lower than the rolling average for the last **ten years (134,000 tonnes).**

The rolling 3 year average is 62,300 tonnes per annum. This highlights a downward trend in recent years.

3.2 Carstone Quarries in Norfolk



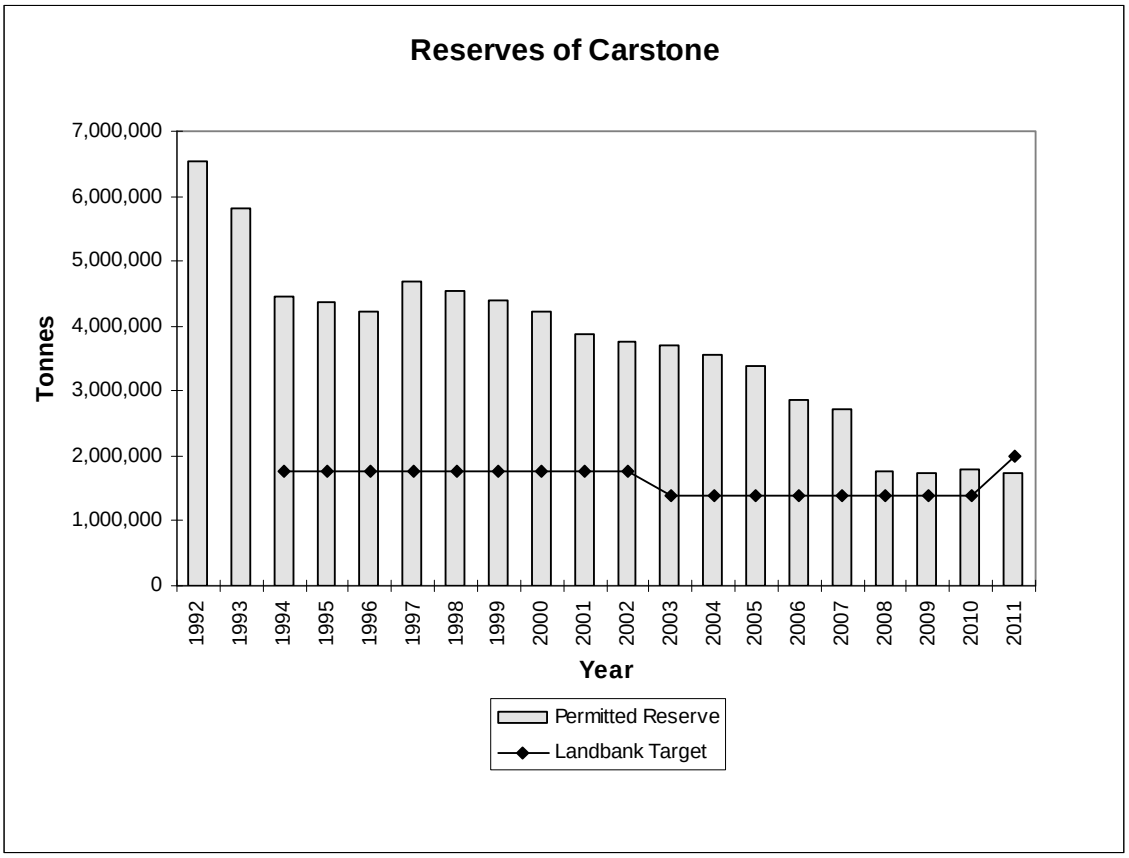
Carstone Extraction		
Parish	**Operator**	**Address**
Middleton	Middleton Aggregates	Mill Drove
Snettisham	Frimstone	Norton Hill
Middleton	Delta Roadstone	Mill Drove

Table 4: Carstone Quarries in Norfolk

3.3 Carstone landbank of permitted mineral reserves

Reserves of Carstone at 31 December 2011 were 1,723,000 tonnes which represents a fall of 3% from 2010 figures. The reason for this is that there were no further permissions for carstone submitted in 2010.

Figure 4: Carstone reserves/landbank target



Source: Annual Monitoring Report 2012 – Norfolk County Council.

Table 5: Carstone Landbank calculation

	Carstone
Permitted reserves (as at 31/12/11)	1,723,632
Annual apportionment	200,000
Landbank (years)	8.6

Source: Draft Annual Monitoring Report 2012 – Norfolk County Council.

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 landbanks at 31/12/2011 is therefore below the landbank indicators in Policy CS1.

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.

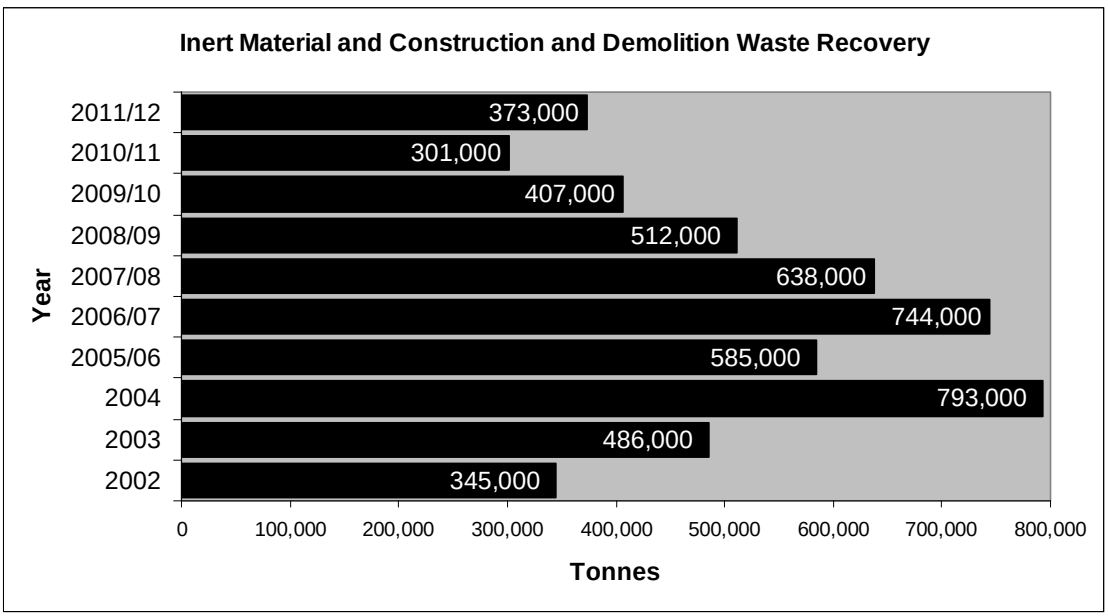
Recycled aggregates are aggregates produced from recycled construction waste such as crushed concrete, planings from road surfacing etc. Secondary and recycled aggregates can replace primary materials for many uses.

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

The data recorded in the Council's Annual Monitoring Report (AMR) (Figure 5) includes the quantities of inert and construction & demolition waste after sorting and/or treating at Norfolk's transfer stations, treatment and recovery facilities and the amount of recycled aggregates sold from quarry sites. The figures from the quarry sites are only included in the last five years statistics.

Figure 5: Inert Material and Construction and Demolition Waste Recovery



Source: Annual Monitoring Report 2012 – Norfolk County Council.

The 10 year average figure for inert material and construction and demolition waste recovery is **518 400 tonnes**. The rolling 3 year average is

approximately **394 000 tonnes** per annum. This highlights a downward trend in recent years.

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 count with some of the figures.

4.2 Recycling Aggregate at Mineral Workings

Information about the amount of material from recycling aggregate as and 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 only the fifth year that this figure has been reported therefore it is not possible to draw any meaningful conclusions from the data. This in part is due to less construction and demolition taking place during the survey period where economic activity has been low.

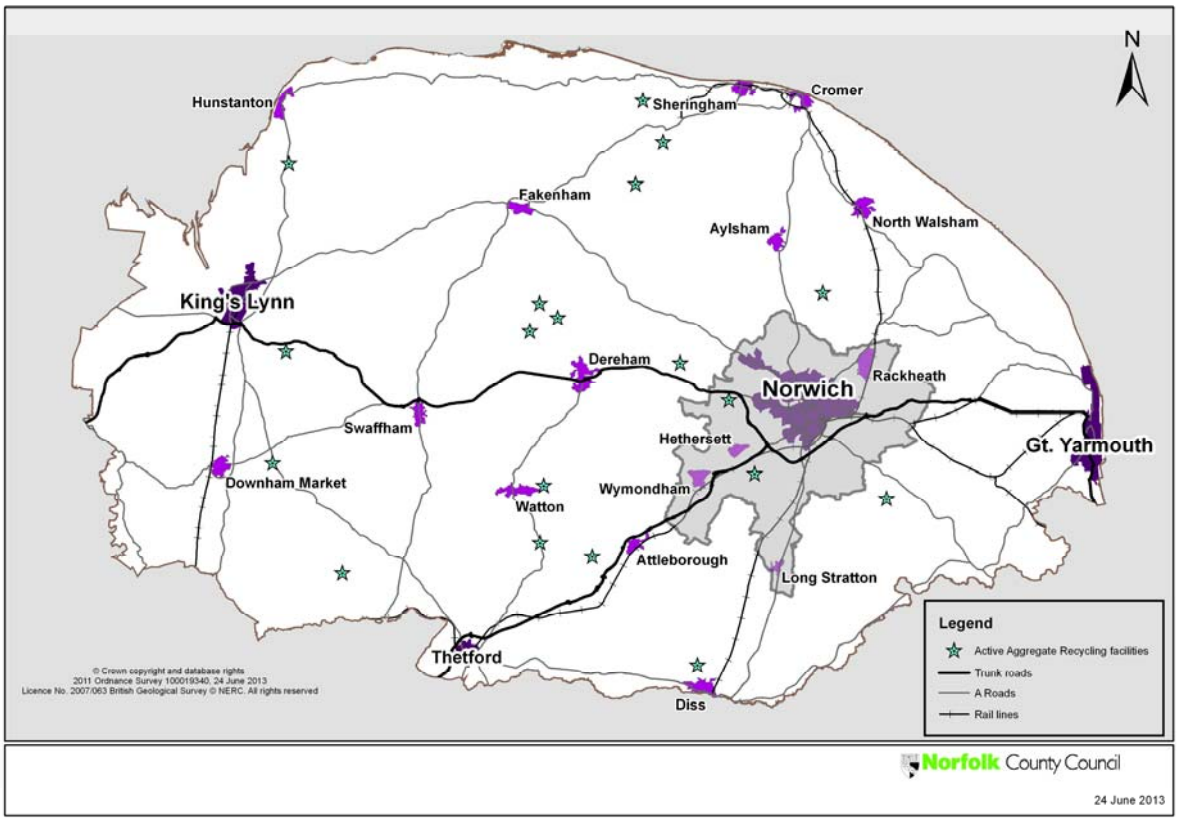
4.3 Secondary and Recycled Aggregate Sources

Table 6: Secondary and Recycled Aggregate Sources

Company	Location
Aylsham Plant Hire Ltd	Aylsham
Richardsons	Morningthorpe
Carter Concrete	Beeston Regis
Cemex	Costessey (Model Farm)
Cemex	Holt
Cemex	Costessey (Longwater)
Childerhouse, Mr R	Breckles
D R Cole Demolition	Brooke
East Anglian Stone Ltd	Stanfield
Fletcher Mr M	Feltwell
Frimstone Ltd	Feltwell
Frimstone Ltd	Snettisham
Frimstone Ltd	Carbrooke
Frimstone Ltd	West Dereham
Frimstone Ltd	Buxton
Glaven Pits Ltd	Letheringsett
Highways Contractors	West Caister
Lafarge Aggregates Ltd	Easton
Middleton Aggregates Ltd	Middleton
Middleton Aggregates Ltd	Ketteringham
Middleton Aggregates Ltd	Beetley
Morrisey Builders	Melton Constable
Mr Rounce	Aylmerton

Company	Location
Phillpott Demolition & Recycling	Bunwell
R & C Bettinson	Heywood
R J Holbrook	Shropham
T Farrow Construction	Bergh Apton

4.4 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 and the British Geological Survey (BGS) provided broad land-won sand and gravel import and export figures for MPAs/ regions. The data within the AM2009 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.

5.2 Crushed Rock

Norfolk, due it's geology, relies on importation for the majority of its crushed rock (carstone is the only indigenous source and is not suitable for Asphalt production). 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).
- 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 Marine sources

Of the total marine sand and gravel consumed in Norfolk (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," with 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.

Table 7: Total aggregate sales in Norfolk

Year	Sand & Gravel	Carstone	Secondary & Recycled	Imports	Marine
2002	**2,587,000**	**131,000**	**345,00**		
2003	**2,488,000**	**131,000**	**486,000**		
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**	**439,000**	**1,000**
2010	**1,196,000**	**58,337**	**301,000**		
2011	**1,289,000**	**62,308**	**373,00**		
Average 2002-11	**1,990,000**	**134,000**	**See para 4.1**		

Source: Annual Monitoring Report 2012 – Norfolk County Council.

Sand and gravel supply

The Annual Monitoring Report (2012) shows that the sand and gravel landbank of permitted reserves equates to 6.3 years which is slightly below the 7 year minimum target for permitted reserves required by the NPPF. This landbank figure is arrived at by using the county apportionment. Norfolk County Council is seeking to address the shortfall by allocating sufficient land in the Mineral Site Specific Allocations DPD.

Carstone supply

The Annual Monitoring Report (2012) shows that the carstone landbank of permitted reserves equates to 8.6 years which is below the 10 year target for permitted reserves required by the NPPF. This landbank figure is arrived at by using the county apportionment. Norfolk County Council is seeking to address the shortfall by allocating sufficient land in the Mineral Site Specific Allocations DPD.

The Council is therefore satisfied that there will be allocations that plan for an adequate supply of mineral in Norfolk following adoption of the Mineral Site Specific Allocations DPD.

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 district, borough and city authorities. The Greater Norwich Development Partnership (GNDP) 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 dwellings (12,706 completions up to

2011) and 27,000 jobs in the period between 2008 and 2026. Breckland District Council is planning for 19,100 dwellings (6,119 completions up to 2011) 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 and 3,750 jobs. The Borough Council of King's Lynn and West Norfolk is planning for 16,500 dwellings (6,678 completions up to 2011) in the period between 2001 and 2026 and 5,000 jobs (2001-21). North Norfolk District Council is planning for 10,100 dwellings (3,465 completions up to 2011) 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.

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.

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.

Location	Projects
	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
	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

7 Conclusion

Norfolk’s share of the sub-regional apportionment figures 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. Totals of 1.99 million tonnes for sand and gravel and 0.138 million tonnes for carstone have been derived from a sales based assessment. The Council does not consider it sensible at this time to base the planned provision of minerals on a rolling average of ten years sales. On reflection the county apportionment figure would be more suited to ensuring that an adequate and steady supply of aggregate is achieved. The reasons for these conclusions are:

The National Infrastructure Plan, Norfolk Infrastructure Plan and Local Development Frameworks / Local Plans of the local authorities all plan for growth within Norfolk. The growth planned for the County will require an adequate and steady supply of mineral. The 10 year sales figures show that the last five years of sales reflect an economy in recession. When the

economy recovers mineral requirement would be more likely to reflect the sales figures that pre-date the recession which are more in line with the county apportionment figures. Flexibility is required and should be built in to any assessment of need.

Flexibility – It is a requirement of paragraph 14 of the NPPF for local planning authorities to positively seek opportunities to meet the development needs of their area and meet objectively assessed needs, with sufficient flexibility to adapt to rapid change, unless:

- any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or

- specific policies in this Framework indicate development should be restricted.

The figures for aggregate need were apportioned to counties areas by East of England Regional Aggregates Working Party (EEAWP) based on national guidelines. The EEAWP 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 EEAWP apportionment figure for the foreseeable future. Paragraph 145 of the NPPF states that, these figures should still be taken into consideration for the purposes of calculating 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 EEAWP, which includes representatives of all mineral planning authorities in the area and mineral operators.

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.

The Future of the LAA

Norfolk County Council is now required to carry out an annual LAA, this is the first. The LAA has not been able to inform the adopted Core Strategy nor the emerging Minerals and Waste Site Specific Allocations Development Plan Documents which have been submitted for Examination in Public (EiP). However it is anticipated that any review of the DPD's would be informed by this version and updated versions of the LAA.