

# **Northumberland Joint Local Aggregates Assessment**

2021 Data

January 2023



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## Executive Summary

This Local Aggregates Assessment (LAA) has been jointly prepared by Northumberland County Council and Northumberland National Park Authority. The LAA is updated on an annual basis and this version has been updated using sales and permitted reserves data from 2021.

The LAA provides an annual assessment of the demand for and supply of aggregates within Northumberland. The LAA contains three main elements:

- A forecast of demand for aggregates;
- An analysis of supply options; and
- An Assessment of the balance between supply and demand.

## Aggregates in Northumberland

### Primary Aggregates

The geology of Northumberland gives rise to the following aggregate resources:

- **Dolerite** – The 'Whin Sill' is an important resource that outcrops in the south and west of the county and in the north of the county.
- **Felsite** – A small intrusion of felsite in the complex is worked at Harden Quarry on the edge of the Northumberland National Park. The material is valued for its red colour.
- **Carboniferous limestone** – This resource is extracted where it is closely associated with the Whin Sill. The 'Great Limestone' resource is also sufficiently thick and consistent in quality to form a workable resource.
- **Sand and gravel (superficial deposits)** – Fluvial, glacial and beach and blown sand deposits are found throughout Northumberland, including the major river valleys such as Tyne, Breamish, Coquet and Till.

**Marine dredged sand and gravel** is landed at the Port of Blyth. This material is supplied material supplied from the Humber dredging area off the coast of Yorkshire and Lincolnshire.

### Recycled Aggregates

Recycled aggregates are supplied from sites in Northumberland that recycle construction, excavation and demolition wastes. A list of these sites is provided in Appendix 3.

### Secondary Aggregates

Ash from Lynemouth Power Station has been used to produce a secondary aggregate, but no aggregates have been produced in recent years. The site has planning permission to allow the extraction and export of ash until 2027.

## **Demand**

To understand and forecast future demand for aggregates from Northumberland, the starting point has been to use the ten-year sales average and other relevant local information in line with the NPPF and Planning Practice Guidance. In terms of other relevant information, consideration has been given to demand from future house building and major infrastructure / construction projects. The LAA has also looked at three-year average sales patterns to identify the general trend of demand in comparison to the ten-year average.

In terms of major infrastructure and construction projects, a number of future projects have also been identified but as these types of schemes are of a similar types and scale to those that have been delivered during the period over which the ten-year sales average has been calculated. It is not anticipated that this will place an increased demand for aggregates that is significantly over and above that captured by the sales average figures.

The three-year sales average for 2018, 2019 and 2021 has been used to calculate the annual provision rate for crushed rock. It was considered that this period captures likely future demands from housebuilding and major construction and infrastructure projects. Sales from 2020 have been excluded from the calculation due to the temporary effect of the coronavirus pandemic on sales in 2020. The annual provision rate for land-won sand and gravel is based on the ten-year sales average (2012 to 2021) as recent trends in sales of sand and gravel from Northumberland have not been reflective of trends elsewhere in North East England or nationally due to a reduction in production capacity.

The annual provision rates for Northumberland recommended in this LAA are:

- Land-won sand and gravel – 353,000 tonnes
- Crushed rock – 1,867,000 tonnes

## **Balance between supply and demand**

A quantitative assessment of the balance between the quantum of permitted reserves and the calculated demand is set out below. The LAA annual provision rate has been extrapolated forward for a period of 15 years to 2036 to understand the impact on demand over time.

Table ES1: Balance between supply and demand (thousand tonnes)

Resource	Permitted Reserves at 31/12/2021 (thousand tonnes)	Annual Provision Rate (thousand tonnes)	Demand 2022 to 2036 based on annual provision rate (thousand tonnes)	Landbank of permitted reserves (years)	Balance between demand and supply 2022 to 2036 (thousand tonnes)
Land-won sand and gravel	4,107	353	5,295	11.6	-1,188
Crushed rock	76,086	1,867	28,005	40.8	+48,081

## Supply

### Land-won sand and gravel supply

The assessment of the balance between supply and demand indicates that there is a shortfall in permitted reserves of sand and gravel to meet the annual provision rate up to 2036. Annual sales from Northumberland have fallen steadily from historic levels in recent years despite a general pattern of increasing sales across North East England. The fall in sales from Northumberland is considered to be a result of issues in supply (namely a reduction in active sites that are unable to work above their current productive capacity) rather than a reduction in overall demand.

The Northumberland Local Plan includes three site-specific allocations for sand and gravel extraction, which if were granted planning permission would address the identified shortfall in permitted reserves to 2036 and would maintain production capacity to meet the annual provision rate.

### Crushed rock supply

For crushed rock, the assessment of the balance between supply and demand indicates that Northumberland has sufficient permitted reserves of crushed rock in quantum to meet demand. However, the overall picture is more complex as there are issues around the distribution of reserves, the productive capacity of sites and the end dates of some sites. This needs to be given appropriate weight when assessing planning applications. The Northumberland Local Plan includes site-specific allocations for crushed rock extraction, which would address the potential issues with future supply and maintain production capacity to meet the annual provision rate.

### Marine sand and gravel supply

Marine dredged sand and gravel makes a small contribution to the overall provision of sand and gravel supply from Northumberland. It is anticipated that supply from this source is likely to be maintained in future, whilst also recognising capacity exists to increase landings.

### Recycled aggregate supply

Recycled aggregates in Northumberland are typically produced from construction, demolition and excavation wastes and road planings. It is anticipated that the supply of recycled and secondary aggregates is likely to continue at similar levels as in recent years, particularly in the short-term.

### Secondary aggregate supply

There has been no supply of secondary aggregates produced from ash at Lynemouth Power Station in recent years. Material remains at the site and planning permission is in place that allows the extraction and export of ash for these purposes until 2027.

Table ES2: Dashboard

	Sales in 2020 (tonnes)	Sales 2021 (tonnes)	Ten-year sales average – 2012-2021 (tonnes)	Three-year sales average – 2019-2021 (tonnes)	Trend	Annual Provision Rate (tonnes)	Permitted Reserves (tonnes)	Landbank (Years)	Comments
Land-won Sand and Gravel	276,000	303,413	354,400	297,700	↓	354,400	4,107,000	11.6	A shortfall in the medium to long-term has been identified.
Crushed Rock	1,863,000	2,216,897	1,587,600	1,940,000	↑	1,867,000	76,086,000	40.8	Substantial permitted reserves available but significant proportion contained in one site and five other quarries have end dates prior to 2036.
Marine Sand and Gravel	Confidential figure	Confidential figure	Confidential figure	Confidential figure	↔				The Crown Estate published data on landings from licenced dredging sites in the Humber area indicate landings of 17,000 tonnes at Port of Blyth in 2021.
Recycled Aggregates	89,700	101,400	89,500	107,100	↑				
Secondary Aggregates	0	0	23,300	0	↓				No sales of ash from Lynemouth Power Station in recent years.

## **1. Introduction**

- 1.1 To plan for a steady and adequate supply of aggregates, the National Planning Policy Framework (NPPF) (July 2021) states that mineral planning authorities should prepare a Local Aggregates Assessment (LAA). The LAA should provide a forecast of demand for aggregates, an analysis of supply options and assess the balance between supply and demand. It is therefore a key evidence base on which to base decisions on the scale and geographical distribution of future aggregates supply in minerals plans.
- 1.2 This LAA covers Northumberland and has been jointly prepared by the two mineral planning authorities in Northumberland (Northumberland County Council and Northumberland National Park Authority) as part of an ongoing commitment to work collaboratively on cross boundary minerals planning issues.

## 2. Background and Context

### What are aggregates?

- 2.1 Aggregates are defined as being hard, granular materials which are suitable for use either on their own or with the addition of a cement, lime or bituminous binder in construction. They are used for road making, house construction, the manufacture of concrete and as railway ballast as well as other uses.
- 2.2 Aggregates are classified in three groups dependent upon where they have been sourced from:
- **Primary aggregates** are produced from naturally occurring mineral deposits, extracted specifically for uses as aggregates. Most primary aggregates are produced from hard, strong rock formations or from naturally occurring particulate deposits such as sand and gravel.
  - **Secondary aggregates** are defined as aggregates obtained as a by-product of industrial processes, or as a by-product of other mining or quarrying operations.
  - **Recycled aggregates** arise from various sources including the demolition or construction of buildings and structures; or from asphalt planings as a result of work to resurface roads. Recycling involves the processing of the waste material so that it can be made into new material for aggregate uses.

### What is a Local Aggregates Assessment (LAA)?

- 2.3 Through national planning policy a Managed Aggregate Supply System (MASS) exists to ensure a steady and adequate supply of aggregate minerals is available to meet the needs of the construction industry. It seeks to ensure that the geographical imbalances between supply (i.e. the locations where the mineral resources are found and can be extracted) and demand (i.e. the locations where the mineral resources are required) are appropriately addressed at the local level.
- 2.4 A Local Aggregate Assessment (LAA) is an annual assessment of the demand for and supply of aggregates in a mineral planning authority's area. Planning Practice Guidance advises that it should contain three elements:
- A forecast of the demand for aggregates based on the average of 10 years sales data and other relevant local information;
  - An analysis of all aggregate supply options; and
  - An assessment of the balance between demand and supply, and the economic and environmental opportunities and constraints that might influence the situation. It should conclude if there is a shortage or a surplus of supply and, if the former, how this is being addressed.

- 2.5 LAAs should consider all aggregate supply options, including:
- Land-won primary resources;
  - Recycled aggregates;
  - Secondary aggregates;
  - Marine aggregates; and
  - Imports into, and exports out of the area.
- 2.6 It is intended that LAA will provide the evidence base on which decisions could be taken on the scale, and geographical distribution of future aggregates provision. The LAA is an evidence-base document to inform the preparation, monitoring and implementation of Local Plans as well as decisions on individual planning applications.

### **Approach to the Local Aggregate Assessment**

- 2.7 This LAA covers Northumberland and has been prepared jointly by Northumberland County Council and Northumberland National Park Authority. This is part of an ongoing commitment of the two authorities to work collaboratively on cross-boundary minerals planning issues.
- 2.8 Previous iterations of the LAA covering Northumberland were prepared jointly with Durham County Council and the five authorities in Tyne and Wear (Gateshead Council, Newcastle City Council, North Tyneside Council, South Tyneside Council and Sunderland City Council). For 2021 separate LAAs have been prepared for Northumberland, County Durham and Tyne and Wear respectively.
- 2.9 Given the close relationship between Northumberland and County Durham and supply to Tyne and Wear, the relevant authorities have liaised during the preparation of this LAA to understand the cross-boundary planning issues in accordance with the 'Duty to Cooperate' as set out in Section 110 of the Localism Act.

### **Overview of the data used to inform the LAA**

- 2.1 In accordance with the guidance on the preparation of LAAs, a wide range of data has been used to inform the preparation of this report, including:
- The annual aggregates survey of operators undertaken by the North East England Aggregates Working Party and the Mineral Planning Authorities (the findings of which are published in the Annual Reports produced by the Aggregates Working Party);
  - The national Aggregate Minerals Survey for England and Wales normally undertaken every four years detailing sales, movement, consumption and permitted reserves of aggregate minerals;
  - Relevant information from planning application documentation (including information on production capacity and reserves);

- Data on landings of marine dredged sand and gravel published by The Crown Estate;
- Data and information on mineral resources held by the British Geological Survey and The Crown Estate; and
- Data derived from the Environment Agency Waste Data Interrogator to estimate waste materials used to produce recycled aggregates.

## **Northumberland**

- 2.10 Northumberland is located within North East England and is the northernmost county in England, stretching from the Scottish Border in the north and west to Tyneside and County Durham in the south. The County is flanked by Cumbria, the Cheviots and North Pennines to the west and by the North Sea to the east.
- 2.11 Northumberland has an area of 5,014 square kilometres and has population of 321,000. Northumberland is mostly rural and is the most sparsely populated county in England with only 63 people per square kilometre.
- 2.12 The south-east of the County is the most densely populated, with the three largest towns of Blyth, Cramlington and Ashington located there. Beyond the south east of Northumberland, the main settlements are located along the Tyne Valley corridor, and on a north-south axis across the lowland coastal strip. Alnwick, Berwick-upon-Tweed, Hexham, Morpeth and Prudhoe are the main towns. The predominantly rural areas of the County are interspersed with smaller towns, villages, hamlets and isolated farmsteads.
- 2.13 Northumberland National Park is deeply rural in its nature. With a resident population of fewer than 2,000 spread over 1,049 square kilometres.
- 2.14 In addition to the Northumberland National Park, the Northumberland Coast Area of Outstanding Natural Beauty (AONB) and part of the North Pennines AONB are located within Northumberland.

## **Aggregate Resources in Northumberland**

- 2.15 A wide range of rocks and more recent sedimentary deposits are found throughout Northumberland. The geology of Northumberland gives rise to the following aggregate resources:
- Carboniferous limestone;
  - Igneous rock; and
  - Sand and gravel (fluvial, glacial, marine and estuarine, beach and blown deposits).
- 2.16 Figure 1 shows Northumberland along with the locations of the current quarries and wharves. The extent of the mineral resources in Northumberland

can be seen on the Mineral Resource Map for Northumberland and Tyne and Wear which was produced by the British Geological Survey which can be downloaded at <http://www.bgs.ac.uk/downloads/start.cfm?id=2578>.

Figure 1: Location of the quarries and wharves in Northumberland



### Rock resources

- 2.17 In Northumberland, the Whin Sill is an important resource of igneous rock for crushed rock aggregate. The Whin Sill is a tabular, sheet-like intrusive body of quartz dolerite and is known locally as 'whinstone'. The Whin Sill has an average thickness of 25 to 30 metres and may be up to 70 metres thick. It underlies most of the Carboniferous rocks in northern Northumberland. Within the Northumberland National Park, the Whin Sill is drift-free and gives rise to an escarpment along or to the north of Hadrian's Wall. Due to its properties this resource is particularly valued for roadstone and it is extracted at a number of sites (see Table 1 and Appendix 2).
- 2.18 Within the northern part of the Northumberland National Park intrusive and extrusive rocks are associated with the Cheviot Igneous Complex, which is of Devonian age. The core of the Cheviot Hills is formed of the Cheviot Granite, the surface outcrop of which occupies an area of some 70 kilometres square. The granite is surrounded by volcanic rocks consisting of mainly andesitic and rhyolitic lavas. The igneous complex is deeply weathered and altered and forms a remote, upland, massif characterised by rounded features. The potential of both the granite and the volcanic rock as a source of aggregate is thought to be low. However, a small intrusion of felsite in the complex is worked at Harden Quarry on the edge of the Northumberland National Park. Harden Quarry produces a range of aggregate products and the material is valued for its red colour.
- 2.19 The Carboniferous limestones in Northumberland occur in a cyclical sequence of limestone, mudstone and sandstone beds. The limestones are less than 10 metres thick and are therefore excluded from the British Geological Survey mineral resources map as they are considered too thin to support a modern quarrying operation. However, there is potential to extract this resource where it is closely associated with the Whin Sill and it is currently extracted at Barrasford, Keepersshield and Longhoughton quarries. The main exception is the 'Great Limestone' which is sufficiently thick (up to 20 metres), extensive and consistent in quality to form a workable resource. The Great Limestone is a basal limestone of Upper Carboniferous sediments. It produces a relatively strong and durable crushed rock aggregate. This resource is worked at Mootlaw Quarry.

### Rock sites and permitted reserves

- 2.20 The current sites with planning permission to extract rock for aggregate uses and the permitted reserves contained within these sites are summarised in Table 1 below with their locations shown in Figure 1. Full details of the sites are provided in Appendix 2.

Table 1: Crushed rock sites and permitted reserves in Northumberland

Quarry name	Resource	Reserves with planning permission (at 31 December 2021)
Barrasford Quarry	Dolerite and limestone	76,085,772 tonnes
Belford Quarry	Dolerite	
Cocklaw Quarry	Limestone	
Cragmill Quarry	Dolerite	
Divethill Quarry	Dolerite	
Harden Quarry*	Mica-porphyrite	
Howick Quarry	Dolerite	
Keepersfield Quarry	Dolerite and limestone	
Longhoughton Quarry	Dolerite and limestone	
Mootlaw Quarry	Limestone	
Swinburne Quarry	Dolerite	

Notes: Harden Quarry is located in the Northumberland National Park. The Belford, Cocklaw and Mootlaw sites were inactive in 2021.

### Sand and gravel resources

- 2.21 The sand and gravel resources in Northumberland are superficial deposits. These resources are divided into four categories:
- Fluvial sand and gravel;
  - Glacial sand and gravel;
  - Marine and estuarine sand and gravel; and
  - Beach and blown sand deposits.
- 2.22 Post glacial river terrace and alluvial deposits are developed along the major river valleys in Northumberland such as the Breamish, Coquet, Till and Tyne. Fluvioglacial deposits may also occur beneath these deposits. River gravels are generally well-sorted, well-rounded and of a high commercial quality. Terrace deposits are generally well- to fairly well-graded with moderate fines content. Narrow belts of floodplain gravel are also common in valleys. Fluvioglacial sands and gravels, generally thicker deposits than river alluvium, have been partially, but imperfectly, sorted by streams issuing from the melting glaciers. The largest spread of such deposits is near Wooler where extensive terraces of sand and gravel are up to 9 metres thick. Terraces are also present along the River Tyne and its tributaries.
- 2.23 The glacial sand and gravel deposits typically occur as lenses within or beneath the till (boulder clay). The composition and thickness of these deposits is highly variable, although characteristically sandy, except in the Tyne Valley where gravels predominate. They may also grade into till as fines content increases. Impersistent glacial beds may reach up to 30 metres in the Tyne Valley. British Geological Survey have assessed part of the area for sand and gravel and within these areas the extent of sand and gravel including the possible extent of sand and gravel beneath the till is shown on

the British Geological Survey mineral resource maps. Outside the areas assessed only the glacial sand and gravel at the outcrop is shown.

- 2.24 Marine and estuarine sand and gravel resources are found in the estuaries of the Blyth and Wansbeck rivers, where they consist of silt, pebbly clay and sand and gravel. The deposits are up to 11 metres thick in the Wansbeck estuary but are not currently worked.
- 2.25 Beach deposits are found along the length of the Northumberland coast. They are generally clean fine and medium-grained sands of uniform quality and are suitable for use as concreting and building sand. There are currently no active planning permissions for extraction of this resource. Blown or dune sand deposits are of variable thickness and consist of uncemented fine- to medium-grained sands. Sand dunes often back the beach deposits along the Northumberland Coast. Blown deposits are not currently extracted in Northumberland as these areas often have nature conservation designations.

Sand and gravel sites and permitted reserves

- 2.26 The current sites with planning permission to extract sand and for aggregate uses and the permitted reserves contained within these sites are shown in Table 2 below and their locations shown in Figure 1. Full details of the sites are provided in Appendix 2.

*Table 2: Sand and gravel sites and permitted reserves in Northumberland*

<b>Quarry name</b>	<b>Reserves with planning permission (as at 31 December 2021)</b>
Ebchester Quarry	4,107,000 tonnes
Lanton Quarry	
Merryshields Quarry	
Wooperton Quarry	

- 2.27 The Northumberland Local Plan contains some site-specific allocations for future sand and gravel extraction. Details of the sites are provided in Appendix 6.

Wharves (for the importation of marine aggregates)

- 2.28 Port facilities at the Port of Blyth are used to land marine dredged sand and gravel, typically at a rate of less than 50,000 tonnes per year. There are currently no areas licenced for the dredging of marine aggregates off the coast of Northumberland or North East England, so material is generally supplied from the Humber dredging areas off the coast of Yorkshire and Lincolnshire, which are the closest licenced areas to Northumberland.

Recycled aggregates

- 2.29 Recycled aggregates are produced at a number of sites in Northumberland and are typically produced from construction, demolition and excavation wastes and spent road planings. These sites are listed in Appendix 3. Recycled aggregates are typically used for lower grade uses such as fill.

Secondary aggregates

- 2.30 Ash from Lynemouth Power Station has been used to produce a secondary aggregate, but no aggregates have been produced from this site in recent years. The site has planning permission to allow the extraction and export of ash until 2027.

### 3. Supply and demand pressures

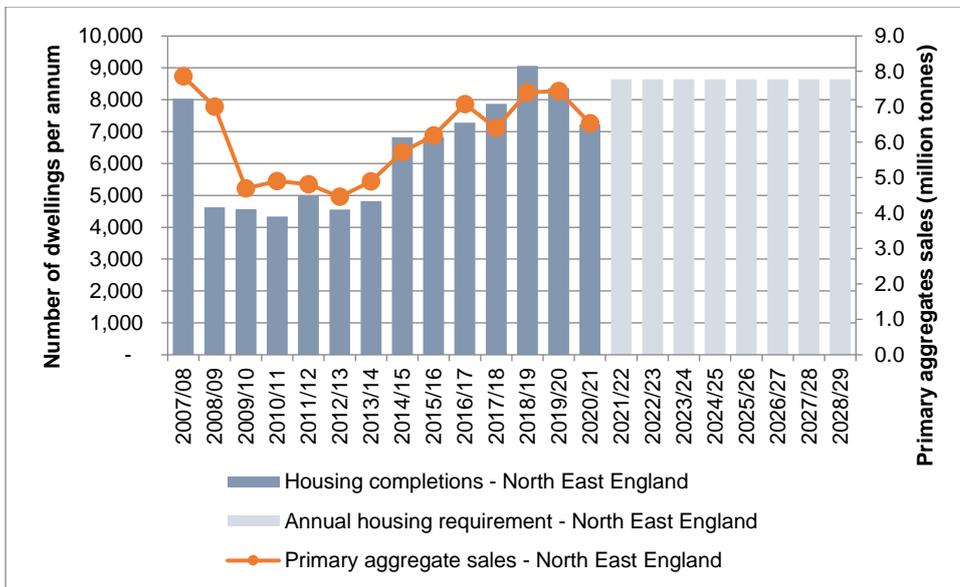
3.1 The NPPF states that mineral planning authorities should plan for a steady and adequate supply of aggregates by preparing a LAA based on a rolling average of 10 years sales data plus other relevant local information. This could include demand from future housebuilding rates as well as demand from large construction and infrastructure projects. There is also a need to consider resource availability and other supply options in identifying the relevant level of provision.

3.2 This section sets out an analysis of the information that could influence demand and whether housing numbers and large infrastructure projects are consistent with past trends. It is considered that the regional level is most appropriate for consideration of these projects. This section also looks at external factors that may have constricted supply in previous years.

#### Housebuilding

3.3 A comparison between housing completions in North East England and sales of primary aggregates from quarries and wharves is shown in Figure 2. The strong correlation illustrates the linear relationship between housing completions and primary aggregate sales in the region.

Figure 2: Comparison between housing completion rates, future housing requirement and primary aggregates sales in North East England



3.4 It should be recognised that aggregate sales reflect wider demands than house building alone as it is estimated that the construction of new housing makes up around 25% of construction output by value<sup>1</sup>. However, it is

<sup>1</sup> Source: Office for National Statistics

considered that house building does provide a useful proxy of overall demand and potential changes in demand. This is partly due to the fact house building will impact on demand for associated infrastructure and can provide an indication of wider growth.

- 3.5 Table 3 below provides a summary of figures on estimated future house building requirements in adopted and emerging Local Plans. To date, data on net annual completions from 2021/22 have yet to be released. At this stage, it is assumed that housing completions will be broadly similar to previous years. Should this assumption turn out to be incorrect then the LAA process and conclusions will be reviewed.

*Table 3: Comparison between local assessment of housing need and housing completions 2019/20 to 2020/21*

Sub-region	Local Planning Authority	Current local assessment of housing need in Adopted and emerging Local Plans (see note)	Net Annual Completions 2019/20	Net Annual Completions 2020/21
Durham	Durham County Council	1,308	1,628	1,328
Northumberland	Northumberland County Council	885	1,690	1,350
Tyne and Wear	Newcastle	1,500	810	1,130
	Gateshead		300	310
	Sunderland	74	570	610
	South Tyneside	321	190	170
	North Tyneside	790	490	370
	Tyne and Wear total	3,385	2,360	2,590
Tees Valley	Hartlepool	410	170	160
	Middlesbrough	410	510	350
	Stockton on Tees	655	990	590
	Darlington	492	450	490
	Redcar and Cleveland	234	350	350
	Tees Valley total	2,201	2,470	1,940

Notes:

Housing figures sourced from the following adopted and emerging Local Plans: County Durham Plan (Adopted October 2020); Northumberland Local Plan (Adopted March 2022); Core Strategy and Urban Core Plan for Gateshead and Newcastle upon Tyne (Adopted 2015); North Tyneside Local Plan (Adopted 2017); South Tyneside Draft Local Plan (2022); Sunderland Core Strategy and Development Plan (Adopted 2020); Darlington Local Plan (Adopted February 2022); Hartlepool Borough Local Plan (Adopted 2018); Middlesbrough Housing Local Plan (Adopted 2014); Redcar and Cleveland Local Plan (Adopted 2018); and Stockton-on-Tees Borough Local Plan (Adopted 2019).

## Major Infrastructure/Construction Projects

- 3.6 Appendix 1 provides details of past and planned future major infrastructure and construction projects, both within Northumberland and in adjoining areas.
- 3.7 Information on the aggregates required for many of these projects is not readily available which means that resulting demand for aggregate minerals cannot be clearly quantified. Those projects that have taken place in recent years have contributed to overall sales of aggregate minerals from sites in Northumberland. It is considered that any additional demand for aggregates from the future projects identified are unlikely to create significant additional demand for aggregate minerals over and above the levels captured in sales figures recorded in previous years. This is because the future projects are of a similar nature to those taking place in recent years and which would have been captured in the sales figures. However, it is considered that there could be local implications from major infrastructure projects, such as converting the A1 to dual carriageway in Northumberland which could place additional demand on sites including those in the north of the County that are geographically close to the scheme.

## Impact of the Coronavirus pandemic

- 3.8 Because of the restrictions to control spread of coronavirus, the vast majority of construction sites were temporarily closed for a period from mid-March 2020. Many of the active sites producing aggregates were also temporarily closed during this time. Sales levels of both crushed rock and sand and gravel fell by between 10 and 16% across nearly all local authorities during this period, likely as a result of these restrictions.
- 3.9 Coronavirus restrictions continued sporadically throughout 2021, however these became progressively less restrictive on both aggregate producers and the construction industry. Sales levels of crushed rock and sand and gravel are higher than in 2020 across all local authorities and have generally returned to levels that are consistent with years prior to the pandemic. It is possible that some sales levels are artificially higher as they incorporate a percentage of 'pent-up' demand from 2020. However given that many sites are limited by their productive capacity it is not considered that this effect will have significantly altered sales levels.
- 3.10 In this context, it is considered that 2020 is not representative of demand for aggregates which would have otherwise occurred and therefore should not be included in calculations for forecasting future demand. The effect of coronavirus restrictions on sales figures for 2021 is not considered as profound, therefore it is appropriate to include figures for this year in future predictions.

## 4. Secondary and recycled aggregates

- 4.1 Recycled and secondary aggregates make an important contribution to the total supply of construction aggregates from Northumberland. The use of these types of aggregates has both environmental and economic benefits through the more sustainable use of resources by maximising the re-use of materials, minimising the extraction of virgin materials and diverting waste from landfill.

### Recycled aggregates

- 4.2 In Northumberland recycled aggregates are typically derived from construction, demolition and excavation wastes that have been reprocessed to provide materials suitable for aggregate uses. They include materials such as stone, concrete, brick or asphalt planings.
- 4.3 Information on the production of recycled aggregates is not as comprehensive or robust as the information available on the production of primary aggregates. Information is derived from surveys of fixed sites producing recycled aggregates. The return rates to these voluntary surveys are generally poor. Where survey data is missing for sites, the Environment Agency's Waste Data Interrogator has been used to derive estimates for those sites that have not provided a survey return. The method using the Waste Data Interrogator progressively filters out types of waste that cannot be used for recycled aggregates, leaving waste which is classified as either 'Concrete, bricks, tiles and ceramics', 'Bituminous mixtures' or 'Other construction and demolition wastes'.
- 4.4 The survey data and the data derived from the Waste Data Interrogator does not take into account mobile crushers and screens which operate outside of fixed sites (at demolition sites, for example). These are thought to make an important contribution to overall supply of recycled aggregates, possibly in the region of 20%<sup>2</sup>.
- 4.5 Table 4 shows the sales of recycled aggregates from sites in Northumberland between 2019 and 2021. Overall, sales of recycled aggregates were 101,400 tonnes from sites in Northumberland in 2021. This represents a rise of approximately 14% from 2020, albeit still lower than sales figures recorded in 2019.

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<sup>2</sup> Department for Communities and Local Government (2007). Survey of Arisings and Use of Alternatives to Primary Aggregates in England, 2005: Construction, Demolition and Excavation Waste. February 2007.

Table 4: Sales of recycled aggregates from Northumberland, 2019 to 2021

Year	Sales of recycled aggregates (thousand tonnes)
2019	130.2
2020	89.7
2021	101.4
<b>Three year average (2019 to 2021)</b>	<b>107.1</b>

Source: Survey data and data derived from the Environment Agency Waste Data Interrogator.

## Secondary aggregates

- 4.6 Secondary aggregates are usually by-products of other construction or industrial processes such as the production of furnace bottom ash. In Northumberland, these are produced from pulverised fuel ash and furnace bottom ash from Lynemouth Power Station. However there have been no sales of ash for aggregate use recorded from this site since the power station was converted to 100% biomass firing beginning in 2015.
- 4.7 Reserves of ash remain at the site and planning permission is in place to allow the extraction and export of the ash deposited in the lagoons at the site until 2027.

Table 5: Sales of secondary aggregates from Northumberland, 2012 to 2021

Year	Sales of secondary aggregates (thousand tonnes)
2012	49.3
2013	57.4
2014	55.0
2015	71.3
2016	0
2017	0
2018	0
2019	0
2020	0
2021	0
<b>Three year average (2019 to 2021)</b>	<b>0</b>
<b>Ten-year average (2012 to 2021)</b>	<b>23.3</b>

## 5. Sand and gravel

- 5.1 This section sets out known information about sales and permitted reserves of sand and gravel in Northumberland as well as information on imports, exports and consumption. After consideration of these issues, this section also calculates future demand, the recommended annual provision rate for sand and gravel from Northumberland and the supply options to meet the annual provision rate.

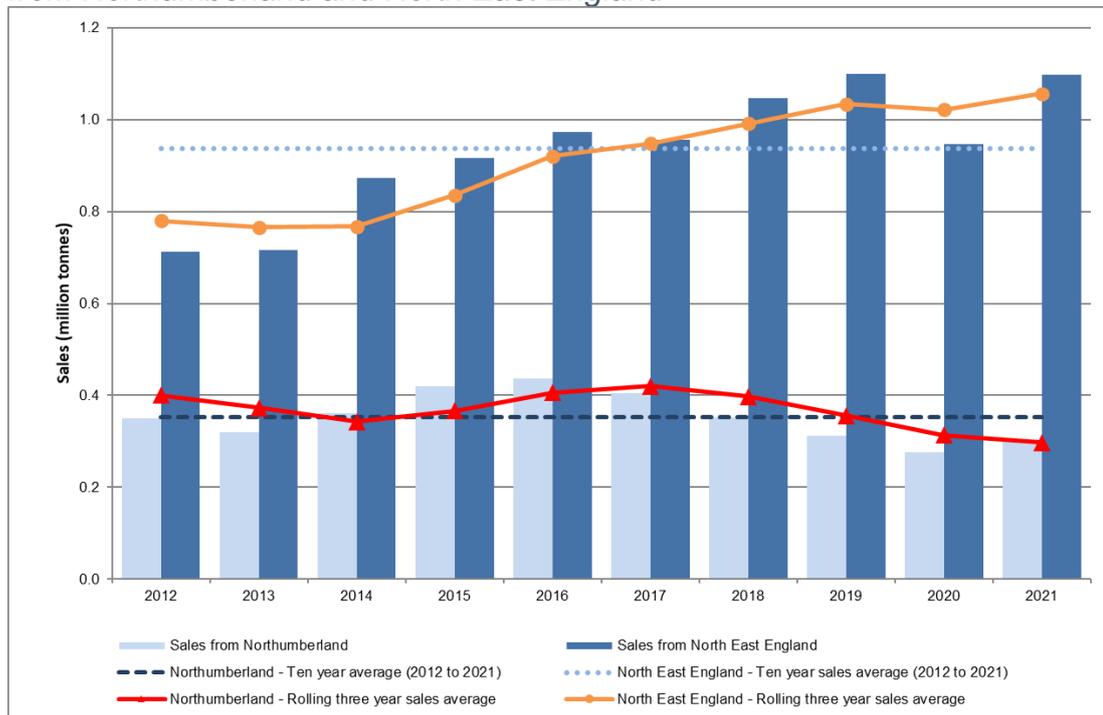
### Land-won sand and gravel

- 5.2 Information on sales of land-won sand and gravel for aggregate use from quarries in Northumberland is provided below in Table 6. Figure 3 shows the ten years of sales average and rolling three years of sales for both Northumberland and the North East England region as a whole. All sales from Northumberland are from outside the Northumberland National Park as there are no sand and gravel quarries within the National Park.
- 5.3 Over the ten-year period from 2012 to 2021 sales of land-won sand and gravel from Northumberland have fallen from a high of 436,000 tonnes in 2016 to lows of 276,000 in 2020 (influenced by the coronavirus pandemic) and 303,000 tonnes in 2021.
- 5.4 When sales from Northumberland are compared with those from all of North East England (Figure 3), the decrease in sales from Northumberland from 2016 onwards is not consistent with the pattern of sales elsewhere which have been generally increasing over the ten-year period (disregarding 2020 sales which were influenced by the coronavirus pandemic).
- 5.5 It seems unlikely that the decrease in sales in Northumberland is a result of a decrease in the overall demand of sand and gravel for aggregate uses. It is more likely that this reduction in sales is due to a decrease in the number of operational sites and production capacity in Northumberland in recent years, as a number of sites have exhausted their reserves. For example, extraction ceased at Hedgeley Quarry in early 2018 and at Haughton Strother Quarry in early 2021. Whilst there are remaining permitted reserves in Northumberland at other sites, roughly 50-60% are estimated to be within a site that has been inactive since 2015. Analysis of the remaining active sites operating in Northumberland suggests they are operating at, or near their productive capacity. Therefore it is concluded that the steady decrease in sales observed is a result of supply factors rather than a reduction in demand.

Table 6: Sales of land-won sand and gravel from Northumberland, 2012 to 2021

Year	Sand and gravel sales (thousand tonnes)
2012	349
2013	319
2014	361
2015	420
2016	436
2017	405
2018	352
2019	312
2020	276
2021	303
Ten-year average (2012 to 2021)	353.3
Three-year average (2018 to 2021)	297.0
Three-year average (2018, 2019, 2021)	322.3

Figure 3: Comparison of land won sand and gravel sales and sales averages from Northumberland and North East England



## Sand and gravel reserves

- 5.6 Reserves of sand and gravel in Northumberland over the last ten years are shown in Table 7. At 31 December 2021 reserves were 4.1 million tonnes. There has been a steady decrease in reserves since 2015 as sales have been higher than the replenishment rate from new planning permissions.

*Table 7: Permitted reserves of sand and gravel for aggregate uses in Northumberland, 2012 to 2021*

Year	Permitted reserves (thousand tonnes)
2012	8,331
2013	7,728
2014	7,414
2015	7,337
2016	6,045
2017	5,410
2018	5,104
2019	5,585
2020	4,594
2021	4,107

## Marine sand and gravel

- 5.7 Northumberland has one site – the Port of Blyth – where marine dredged sand and gravel is landed and sold for aggregate purposes. Data published by The Crown Estates shows that 17,186 tonnes of sand and gravel was landed in 2021 (Table 8). This figure is generally consistent with sales of material landed in previous years stretching back at least as far as 2012.

*Table 8: Landings of marine dredged sand and gravel in Northumberland*

Year	Landings (tonnes)
2012	11,156
2013	27,489
2014	22,946
2015	37,452
2016	29,904
2017	37,406
2018	11,012
2019	18,045
2020	-
2021	17,186

Notes:

Data sourced from The Crown Estate. Marine Aggregates: Summary of Statistics 2021  
All landings at the Port of Blyth, Northumberland.

Figures are for landings and not sales. They refer to sand and gravel removed under licence from The Crown Estate Commissioners and relate to royalty returns for the relevant calendar year. Removals from areas not in The Crown Estate ownership are not included.

## Imports and exports

- 5.8 The most up-to-date information on imports and exports of primary aggregate minerals is provided from the results of the 2019 national aggregate minerals survey undertaken by British Geological Survey on behalf of the Ministry of Housing, Communities and Local Government (now the Department for Levelling Up, Housing and Communities) and Welsh Government.
- 5.9 The information on imports and exports of materials for aggregate uses also allows an understanding of the apparent consumption of primary aggregates in each area. Table 9 shows the apparent consumption for Northumberland. This highlights that Northumberland is a net-exporter of sand and gravel for aggregate uses.

*Table 9: Comparison of 2019 sales and consumption of land-won and marine for sand and gravel for Northumberland*

Sales (thousand tonnes)	Imports (thousand tonnes)	Exports (thousand tonnes)	Total consumption (thousand tonnes)
323	33	171	188

Source: Table 3 Summary of exports and imports of sand and gravel (including marine sand and gravel) in 2019: North East. Table 5i Consumption of primary aggregates by region in 2019: North East. Collation of the results of the 2019 Aggregate Minerals Survey for England and Wales.

## Exports

- 5.10 Table 10 shows the sales of sand and gravel from quarries and wharves in each sub-region within Northumberland and the principal destinations of these sales. Sales to the rest of North East England were roughly the same as those recorded internally with no sales of sand and gravel recorded outside of North East England.

*Table 10: Sales of sand and gravel from Northumberland and principal destination sub-region, 2019*

Destination	Land won sand and gravel (thousand tonnes)	MPA %	Marine sand and gravel (thousand tonnes)	MPA %
Northumberland	149	48%	4	35%
North East England	164	52%	7	65%
Elsewhere	0	0%	0	0%
Total	313		11	

Source: Table 9i Sales of primary aggregates by MPA and principal destination sub-region in 2019: North East. Collation of the results of the 2019 Aggregate Minerals Survey for England and Wales.

Imports

5.11 Consumption of sand and gravel for aggregate uses from quarries and wharves in Northumberland is shown in Table 11. The table categorises the percentage of overall consumption that is received from the mineral planning authority area where the mineral was extracted or the wharf where it was landed in the case of marine sand and gravel. The majority of sand and gravel consumed within Northumberland was supplied from sites within Northumberland (80 to 90% of consumption). There are some cross boundary movements from the neighbouring the areas of County Durham and Cumbria and from South Tyneside with each recorded as supplying between 1% and 10% of consumption.

*Table 11: Consumption of sand and gravel for aggregate use in 2019 identifying the MPA area where the material was supplied from*

Source region	Source Mineral Planning Authority	Percentage of Northumberland consumption
North East England	Durham County Council	1-10%
	Northumberland County Council	80-90%
	South Tyneside Council	1-10%
Yorkshire and the Humber	North Yorkshire County Council	<1%
North West England	Cumbria County Council	1-10%
Total consumption (thousand tonnes)		186

Source: Table 9i Sales of primary aggregates by MPA and principal destination sub-region in 2019: North East. Collation of the results of the 2019 Aggregate Minerals Survey for England and Wales.

## Calculation of demand

- 5.12 The NPPF states that mineral planning authorities should plan for a steady and adequate supply of aggregates by preparing a LAA based on a rolling average of 10 years sales data plus other relevant local information. The relevant local information has been discussed in previous chapters and the calculation of future demand for sand and gravel is based on the following assumptions:
- Levels of housebuilding will be broadly consistent with past rates across the region, as discussed in Chapter 3;
  - Demand for aggregates from large infrastructure projects will be broadly similar to previous projects, or at least not significantly higher as discussed in Chapter 3;
  - Sales figures from 2020 are not representative due to the impact of the pandemic as discussed in Chapter 3 and should not be included in calculation of the three-year sales averages;
  - Recycled aggregates will continue to make an important contribution to overall supply as discussed in Chapter 4;
  - Marine sand and gravel will also continue to make a similar contribution to overall supply as in previous years, as discussed in Chapter 5; and
  - Levels of imports and exports of sand and gravel will remain broadly consistent with data recorded in 2019.
- 5.13 Table 12 provides a summary of sales of sand and gravel within Northumberland for the period from 2002 to 2021. Table 12 also provides a summary of the following:
- 10-year sales average (2012 to 2021) - To understand past supply and provide the basis of forecasting future demand in line with the NPPF.
  - 3-year sales average (2019 to 2021) - To understand the general trend of demand in comparison to the 10-year average as part of the consideration of whether it might be appropriate to increase supply as advised by the Planning Practice Guidance.
  - 3-year sales average (2018 to 2021, excluding 2020) - To understand the general trend of demand in comparison to the 10-year average but excluding sales from 2020 which were affected by restrictions to control the coronavirus pandemic.
  - 20-year sales average (2002 to 2021) - To understand trends over a longer period of time, including sales prior to the economic downturn after 2008.

Table 12: Sand and gravel sales and sales average information, 2002 to 2021

Year	Sales of land-won sand and gravel from Northumberland (thousand tonnes)
2002	582
2003	610
2004	638
2005	576
2006	505
2007	574
2008	515
2009	425
2010	402
2011	450
2012	349
2013	321
2014	361
2015	420
2016	436
2017	405
2018	352
2019	312
2020	276
2021	303
<b>3-year average (2019 to 2021)</b>	<b>297.0</b>
<b>3-year average (2018, 2019 and 2021)</b>	<b>322.3</b>
<b>10-year average (2012 to 2021)</b>	<b>353.3</b>
<b>20-year sales average (2002 to 2021)</b>	<b>440.5</b>

- 5.14 As discussed in Chapter 3, sales of aggregates in 2020 will have been affected by the impact of the coronavirus pandemic both through restrictions affecting production at sites (supply) and restrictions affecting construction sites using aggregates (demand). For this reason, it is thought most appropriate to discount 2020 sales figures from the calculation of the three years sales average, as this is unlikely to be representative of a typical year of sales and recent trends. It is still considered appropriate to include the year 2020 in calculations of the 10-year and 20-year averages as these cover a longer period and therefore individual years which are unrepresentative make less of an impact on the calculated averages.
- 5.15 In previous iterations of the LAA, it has been considered appropriate to use a three-year sales average to calculate future demand. This is because the ten-year period included a period of depressed sales between 2009 and 2014 as a result of the economic downturn which in turn meant there were lower levels of construction activity in Northumberland and North East England. In comparison, the three-year average was considered to better reflect more recent trends in demand and those likely to be experienced in future years.
- 5.16 However, as discussed earlier in this chapter recent trends in sales of sand and gravel in Northumberland have not been reflective of general trends in the

region nor when extended to look at the national picture. This is considered to be as a result of restrictions to supply - with all active sites currently working at, or near productive capacity - as opposed to any changes in demand. As a result, the three-year sales average is currently below the ten-year sales average and is not considered to be appropriate for calculating future demand for sand and gravel in Northumberland. Using sales over a longer period, such as a twenty-year period between 2002 and 2021 is also not deemed to be appropriate as there have been innovations that have reduced the quantities of virgin materials required in some products and applications over this period. It is therefore recommended that the ten years sales average is used to identify the annual provision rate for sand and gravel.

- 5.17 The recommended annual provision rate for land-won sand and gravel from Northumberland, based on the ten-year sales average, is set out below. This annual provision rate will be monitored and revisited each year through the annual update of the LAA to take account of the most up-to-date information on sales and changes to demand based on the local factors identified such as planned house building and major infrastructure and construction projects.

<b>LAA annual provision rate for land-won sand and gravel</b>	<b>353,000 tonnes</b>
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### Supply options

- 5.18 At 31 December 2021, Northumberland had permitted reserves of sand and gravel for aggregate uses of 4.1 million tonnes. Based on the annual provision rate figure of 353,000 tonnes, this equates to a landbank of permitted reserves of 11.6 years. A quantitative assessment of the balance between the quantum of permitted reserves and the annual provision rate is set out below in Table 13.
- 5.19 Demand has been calculated by extrapolating the annual provision calculating in the LAA over the 15-year period. The figures indicate that there will be a shortfall in the permitted reserves of sand and gravel required to meet this identified demand over the period to 2036.

Table 13: Assessment of the balance between supply and demand for sand and gravel for aggregate use from Northumberland

a)	Permitted reserves at 31 December 2021	4,107,000 tonnes
b)	LAA Annual Provision	353,000 tonnes
c)	Demand forecast 2022 to 2036 b) x 15 years	5,295,000 tonnes
d)	Landbank based on LAA Annual Provision a) ÷ b)	11.6 years
e)	Balance between quantum of permitted reserves and demand a) – c)	-1,188,000 tonnes

- 5.20 While a shortfall in the reserves of sand and gravel in Northumberland to meet the LAA annual provision rate is identified, it is recognised that the Northumberland Local Plan (adopted March 2022) includes three site-specific allocations (see Appendix 6) that would provide additional reserves (6.8 million tonnes) and would provide production capacity to meet the annual provision rate. There is currently an active planning application for one of the allocated sites which would add 5.8 million tonnes to the landbank if granted planning permission (see Appendix 7). It is therefore considered that these site allocations would address the identified shortfall in supply. The acceptability of extracting the resources at these allocated sites would need to be tested both through the determination of applications for planning permission.
- 5.21 There are currently no sand and gravel quarries in the Northumberland National Park and no sand and gravel for aggregate use is currently produced from this MPA area. The Northumberland National Park Local Plan (adopted in July 2020) does not include any site-specific allocations for sand and gravel extraction and does not make provision for the extraction of this mineral. This approach was tested through the preparation of both the Northumberland National Local Plan and the Northumberland Local Plan. In line with the NPPF provision for sand and gravel from Northumberland is made outside of the National Park. Ongoing co-operation by the Northumberland National Park Authority and the other MPAs in the North East England AWP cluster, particularly Northumberland County Council, will be required to ensure the provision can be made from areas outside the National Park.
- 5.22 Marine sand and gravel imported via the Port of Blyth will also make a contribution in the future and potential capacity exists to increase supply from this source.

## 6. Crushed rock

6.1 This section sets out known information about sales and permitted reserves of crushed rock for aggregate uses in Northumberland as well as information on imports, exports and consumption. After consideration of these issues, this section also calculates future demand, the recommended annual provision rate for crushed rock from Northumberland and the supply options to meet the annual provision rate.

### Crushed rock sales

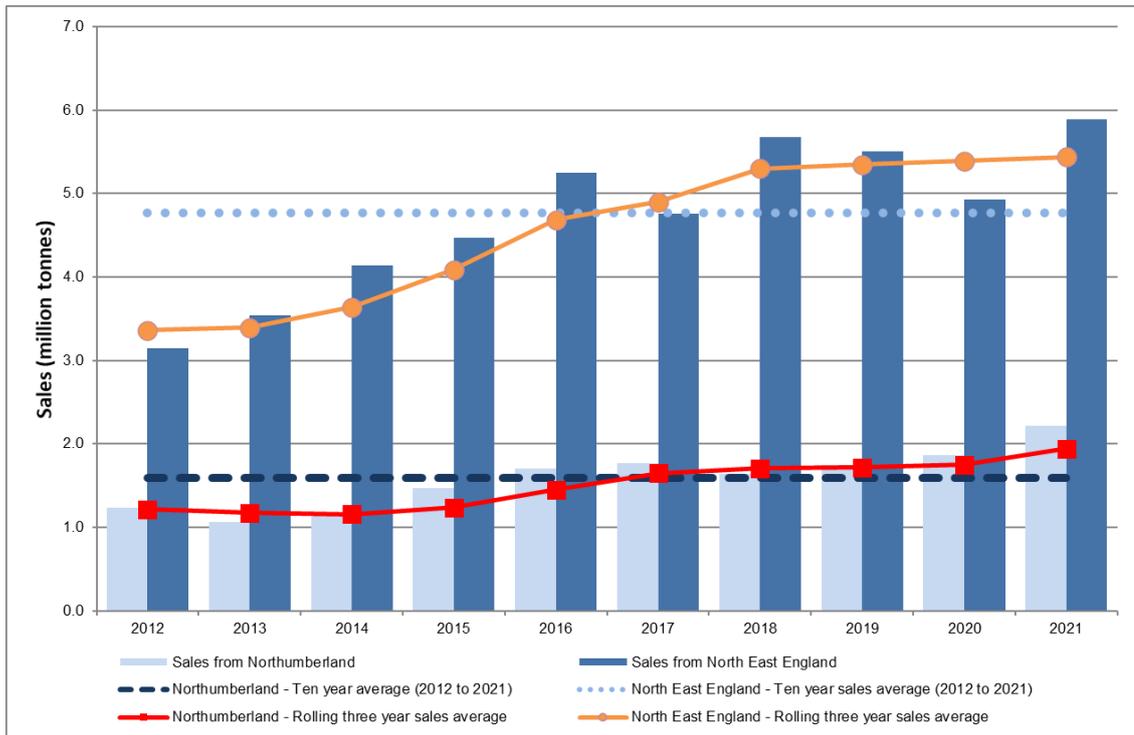
6.2 Information on sales of land won crushed rock for aggregate use from quarries in Northumberland is provided below in Table 14. In 2021 total sales were 2.2 million tonnes, the highest level recorded during the ten-year period between 2012 to 2021. Although not uniform, sales have generally been rising steadily since 2012.

6.3 Figure 4 shows the ten years of sales average and rolling three years of sales for both Northumberland and the North East England region as a whole. The sales trends for Northumberland generally follow the trends for North East England as a whole. The three year sales average has risen steadily since 2012 and has been higher than the ten year average in recent years.

*Table 14: Sales of crushed rock for aggregate uses from quarries in Northumberland, 2012 to 2021*

<b>Year</b>	<b>Sales (thousand tonnes)</b>
2012	1,233
2013	1,060
2014	1,171
2015	1,473
2016	1,708
2017	1,768
2018	1,641
2019	1,742
2020	1,863
2021	2,217
<b>Ten-year average (2012 to 2021)</b>	<b>1,587.6</b>
<b>Three-year average (2019 to 2021)</b>	<b>1,940.7</b>
<b>Three-year average (2018 to 2021, excluding 2020)</b>	<b>1,866.7</b>

Figure 4: Comparison of crushed rock sales and sales averages from Northumberland and North East England



## Crushed rock reserves

- 6.4 Reserves of crushed rock in Northumberland over the last ten years are shown in Table 13. At 31 December 2021 reserves were 76.1 million tonnes. There has been a steady decrease in reserves since 2015 as sales have been higher than the replenishment rate from new planning permissions.

Table 15: Permitted reserves of crushed rock for aggregate uses in Northumberland, 2012 to 2021

Year	Permitted reserves (thousand tonnes)
2012	77,264
2013	76,643
2014	77,972
2015	83,991
2016	82,917
2017	81,016
2018	78,520
2019	80,070
2020	78,681
2021	76,086

## Crushed rock landed at wharves

- 6.5 In addition to the supply from quarries in Northumberland, crushed rock for aggregate uses has been landed at Port of Blyth wharf in the past. However, no sales have been recorded from this site since 2015.

## Imports and exports

- 6.6 The results of the 2019 national aggregate minerals survey undertaken by British Geological Survey on behalf of the Ministry of Housing, Communities and Local Government (now the Department for Levelling Up, Housing and Communities) and Welsh Government provides the most up-to-date information on movements of primary aggregates between the regions and mineral planning authority areas of England and Wales
- 6.7 The information on imports and exports of materials for aggregate uses also allows an understanding of the apparent consumption of primary aggregates in each area. Table 16 shows the apparent consumption for Northumberland. This highlights that Northumberland is a **net-exporter** of crushed rock for aggregate uses.

*Table 16: Comparison of 2019 sales and consumption of crushed rock for Northumberland*

<b>Sales</b> (thousand tonnes)	<b>Imports</b> (thousand tonnes)	<b>Exports</b> (thousand tonnes)	<b>Total consumption</b> (thousand tonnes)
1,742	252	549	1,445

Source: Table 3 Summary of exports and imports of crushed rock (including material landed at wharves) in 2019: North East. Table 5i Consumption of primary aggregates by region in 2019: North East. Collation of the results of the 2019 Aggregate Minerals Survey for England and Wales.

## Exports

- 6.8 Table 17 shows the sales of crushed rock from quarries in Northumberland and the principal destinations of these sales. The data indicates 31% of sales from Northumberland were to areas outside of Northumberland, with 26% to other parts of North East England. Tyne and Wear was one of the main destinations for sales. Sales outside of North East England would have included material from Harden Quarry in the Northumberland National Park which supplies materials to a wider geographical area due to the mineral from this site being valued for its red colour and not being readily available elsewhere.

Table 17: Sales of crushed rock in 2019 and principal destination sub-region

Destination	Sales of crushed rock (thousand tonnes)	MPA %
Northumberland	1,193	69%
North East England	459	26%
Elsewhere	90	5%
Total	1,742	

Source: Table 9i Sales of primary aggregates by MPA and principal destination sub-region in 2019: North East. Collation of the results of the 2019 Aggregate Minerals Survey for England and Wales.

### Imports

- 6.9 The consumption of crushed rock in Northumberland is shown in Table 18. The table categorises for each destination sub-region the percentage of overall consumption that is received from source MPAs. A large proportion of consumption (70% to 80%) is supplied from quarries within Northumberland itself. There are also some notable movements from the adjoining areas of County Durham (10-20% of consumption) and Cumbria (1% to 10% of consumption), as well as 1% to 10% of consumption from outside England and Wales.

Table 18: Consumption of crushed rock for aggregate use in 2019 identifying the MPA area where the material was supplied from

Source region	Source MPA	Destination
North East England	Durham County Council	10-20%
	Northumberland County Council	70-80%
	Northumberland National Park Authority	1-10%
Yorkshire and the Humber	Yorkshire Dales National Park	<1%
East Midlands	Derbyshire County Council	<1%
	Leicestershire County Council	<1%
	Peak District National Park Authority	<1%
West Midlands	Shropshire County Council	<1%
Wales	Powys	<1%
	Rhondda Cynon Taf	<1%
	Outside England and Wales	1-10%
Total consumption (thousand tonnes)		1,444

## Calculation of demand

- 6.10 As previously discussed, a number of assumptions have been made when considering the future demand for crushed rock, namely:
- Levels of housebuilding will be broadly consistent with past rates across North East England, as discussed in Chapter 3;
  - Demand for aggregates from large infrastructure projects will be broadly similar to previous projects, or at least not significantly higher as discussed in Chapter 3;
  - Sales figures from 2020 are not representative due to the impact of the pandemic as discussed in Chapter 3 and should not be included in calculation of the three-year sales averages;
  - Recycled aggregates will continue to make an important contribution to overall supply as discussed in Chapter 4; and
  - Levels of imports and exports of crushed rock will remain broadly consistent with data recorded in 2019.

### Sales data

- 6.11 Table 19 provides a summary of sales of sand and gravel within the Joint LAA area for the period 2002 to 2021 respectively. Table 19 also provides a summary of the following:
- 10-year sales average (2012 to 2021) - To understand past supply and provide the basis of forecasting future demand in line with the NPPF.
  - 3-year sales average (2019 to 2021) - To understand the general trend of demand in comparison to the 10-year average as part of the consideration of whether it might be appropriate to increase supply as advised by the Planning Practice Guidance.
  - 3-year sales average (2018 to 2021, excluding 2020) - To understand the general trend of demand in comparison to the 10-year average but excluding sales from 2020 which were affected by restrictions to control the coronavirus pandemic.
  - 20-year sales average (2002 to 2021) - To understand trends over a longer period of time, including sales prior to the economic downturn after 2008.

Table 19: Crushed rock sales and sales average information, 2002 to 2021

Year	Crushed rock sales (thousand tonnes)
2002	1,957
2003	2,381
2004	2,281
2005	1,696
2006	1,796
2007	1,676
2008	1,664
2009	1,153
2010	1,188
2011	1,230
2012	1,233
2013	1,060
2014	1,171
2015	1,473
2016	1,708
2017	1,768
2018	1,641
2019	1,742
2020	1,863
2021	2,217
<b>3-year average (2019 to 2021)</b>	<b>1,940.7</b>
<b>3-year average (2018 to 2021, excl. 2020)</b>	<b>1,866.7</b>
<b>10-year average (2012 to 2021)</b>	<b>1,587.6</b>
<b>20-year average (2002 to 2021)</b>	<b>1,645.2</b>

6.12 As discussed in Chapter 6, past iterations of the LAA have used the three-year sales average to calculate future demand. This is due to the fact the ten-year sales average has includes a period of depressed sales as a result of the last economic downturn (between 2009 and 2014) whereas the three-year period (excluding 2020 which was affected by the coronavirus pandemic) reflects a period of increased construction activity and the levels that are anticipated in the coming years.

6.13 The recommended annual provision rate for crushed rock from Northumberland, based on the three-year sales average (2018,2019 and 2021) is set out below. This annual provision rate will be monitored and revisited each year through the annual update of the LAA to take account of the most up-to-date information on sales and changes to demand based on the local factors identified such as planned house building and major infrastructure and construction projects.

<b>LAA annual provision rate for crushed rock</b>	<b>1,867,000 tonnes</b>
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## Supply options

- 6.14 A quantitative assessment of the balance between the quantum of permitted reserves and the LAA annual provision rate is set out below. This helps to provide an understanding of whether existing permitted reserves could meet the LAA annual provision rate.

*Table 20: Assessment of the balance between supply and demand for crushed rock for aggregate use from Northumberland*

a)	Permitted reserves at 31 December 2021	76,085,772 tonnes
b)	LAA Annual Provision	1,867,000 tonnes
c)	Demand forecast from 2022 to 2036 b) x 15 years	28,005,000 tonnes
d)	Landbank based on LAA provision a) ÷ b)	40.75 years
e)	Balance between quantum of permitted reserves and demand a) – c)	+48,080,772 tonnes

- 6.15 When considered in isolation, the reserve and landbank figures indicate that there are sufficient reserves of crushed rock with planning permission in Northumberland to meet the LAA annual provision requirement up to 2036.
- 6.16 However, it is also important to understand whether there are any restrictions on the capacity of the sites containing these reserves that could influence the ability of these to contribute to crushed rock supply in line with the LAA annual provision rate. The issues that potentially impact on the future availability of reserves and the capacity of sites to meet supply include:
- A large part of the permitted reserves of crushed rock in Northumberland (estimated to be in the region of 60%) are contained within one quarry;
  - The current planning permissions for five of the quarries have extraction end-dates before 2036 but it is recognised that the remaining reserves within these sites may not be exhausted by the current end-dates of the planning permissions for these sites;
  - Within some of the individual quarries that are currently contributing to supply, the permitted reserves are projected to be exhausted before 2036 and this will impact on the overall operational capacity available to contribute to supply; and
  - Some of the permitted reserves in Northumberland are contained in sites that are currently 'inactive' (estimated to be around 10% at 31 December 2021). These sites have not been operational for significant

periods of time and there is some uncertainty about whether these will become operational in the coming years and be able to contribute to supply.

- 6.17 The Northumberland Local Plan includes five site-specific allocations that would provide for the extraction of additional rock reserves and provide further production capacity (see Appendix 6 for details of estimated reserves and production capacity). The Northumberland National Park Local Plan has policy to consider proposals at Harden Quarry. A planning application to extend Harden Quarry and continue supply from this site until 2054 was submitted in 2022 and a decision is pending. It is considered that the provision made in the Local Plans would address the issues identified above and support a steady and adequate supply from Northumberland to 2036 (and beyond). The acceptability of extracting the resources at these allocated would need to be tested both through the determination of applications for planning permission.

## 7. Conclusions

### Land-won sand and gravel supply

- 7.1 This LAA has identified that there is a shortfall in provision for sand and gravel extraction for aggregate uses to deliver the annual provision rate over the period to 2036. This is both in terms of the quantum of permitted reserves and the production capacity of the existing sites with planning permission. The Northumberland Local Plan (adopted in March 2022) does however identify site-specific allocations for sand and gravel extraction, which if granted planning permission, would be able to contribute to a sufficient landbank of permitted reserves and provide sufficient production capacity to meet the annual provision rate.
- 7.2 This situation will continue to be monitored in future annual updates to this LAA. The acceptability of the proposals to work the resources identified in the Northumberland Local Plan site allocations will be tested through the determination of the planning applications. In line with national planning policy, additional provision is sought outside of the Northumberland National Park and the Northumberland National Park Local Plan does not make provision for sand and gravel extraction through the identification of site allocations.
- 7.3 The closure of some of the existing sites in Northumberland and the affect this has on supply from Northumberland and the calculation of the sales averages that are used to inform an understanding of demand will require consideration in future annual reviews of this LAA.

### Crushed rock supply

- 7.4 The analysis in this LAA has indicated that there significant permitted reserves of crushed rock for aggregate uses in Northumberland and this means there are good overall prospects of crushed rock supply being maintained. However there remain issues that potentially impact on the availability of reserves and the production capacity to meet the annual provision rate. This is because a significant proportion of the reserves (around 60%) are contained within a single quarry, five of the current quarries have end dates before 2036 and the permitted reserves within a number of quarries are likely to be exhausted by 2036. The Northumberland Local Plan includes site-specific allocations for crushed rock which would be capable of addressing the supply issues identified. The acceptability of the proposals to work the resources identified in the Northumberland Local Plan site allocations will be tested through the determination of the planning applications required to gain planning permission to allow the proposal to go ahead.
- 7.5 In the Northumberland National Park, Harden Quarry supplies a crushed rock aggregate that is particularly valued for its red colour. This material is not necessarily required to meet the demand for crushed rock aggregate from

Northumberland but it does provide a material with special characteristics that is not found at other sites in Northumberland. The current planning permission will provide continuity of supply from this site until 2029. Beyond 2029 consideration needs to be given as to whether it would be appropriate to allow this site to continue when reserves are exhausted, which would be dependent on planning permission being granted to extend the site and/or extend the time limit for extraction (a planning application was submitted to Northumberland National Park Authority in 2022). A key consideration would be whether the need for the material outweighs the potential adverse effects on the purposes and special qualities of the Northumberland National Park.

### **Marine sand and gravel supply**

- 7.6 Marine dredged sand and gravel makes a small contribution to supply from Northumberland. It is anticipated that this level of supply is likely to be maintained in future years. It is also recognised that there is potential capacity to increase supply from this source.

### **Recycled aggregate supply**

- 7.7 Comprehensive information on the production and supply of recycled aggregates is not available to inform this LAA. It is assumed that the majority of material that is suitable for use as a recycled aggregate is put to beneficial use. Understanding the scale of production and supply of recycled aggregates, particularly those arising from mobile plant is a matter to be monitored and revisited in the future.
- 7.8 Recycled aggregates in Northumberland are typically produced from construction, demolition and excavation wastes and road planings. It is anticipated that the supply of recycled aggregates from these sources is likely to continue at similar levels as in recent years, particularly in the short-term.

### **Secondary aggregate supply**

- 7.9 Ash from Lynemouth Power Station is a source of secondary aggregates from Northumberland. There have however been no aggregates supplied from this site since 2015. It is, however, anticipated that ash material from the previous burning of coal stored on the site can be extracted and used as a secondary aggregate in the future. Planning permission allows the extraction and export of ash until 2027. The ash lagoons are safeguarded in the Northumberland Local Plan to ensure the resource is not lost to other development.

## Appendix 1: Infrastructure projects that could have a significant influence on demand for aggregates

**Major development projects of note in Northumberland, North East England and surrounding areas – completed project or projects currently being constructed**

Project	Location	Details	Timeframe	Demand for aggregates
A1 upgrade at Lobley Hill	Gateshead, Tyne and Wear	Upgrade of two junctions to include new parallel road links between the junctions and three lanes in each direction.	Construction commenced in summer 2014 and was completed in summer 2016.	Not known.
Morpeth Northern Bypass	Morpeth, Northumberland	3.8 km of new single carriageway road.	Construction commenced in Spring 2015 and was completed in April 2017.	216,000 tonnes of primary aggregates were supplied from Barrasford and Howick quarries and 5,000 tonnes of recycled material. In addition, aggregate was used in the concrete supplied to the project.
A1 Leeming to Barton	North Yorkshire	12 mile section of dual carriageway to be replaced with a new three lane motorway.	Construction commenced in 2014 and was completed in 2018.	Quarries in the south of County Durham have contributed to supply for this project.
Waverley Line re-opening	Scottish Borders	Re-opening of a 30-mile section of the Waverley Line between Tweedbank and Newcraighall near Edinburgh.	Major construction works commenced in spring 2013 and were completed in summer 2015.	Understood materials supplied from quarries in Scotland. Therefore, unlikely to influence on demand from Joint LAA area.

Northumberland Joint Local Aggregates Assessment (2021)

Project	Location	Details	Timeframe	Demand for aggregates
A19 Silverlink Junction Improvements	North Tyneside, Tyne and Wea	Improvements to the A19/A1058 Coast Road junction by upgrading the existing grade separated roundabout to a three level interchange.	Construction commenced in 2016 and was completed in March 2019.	Materials include 4,785m <sup>3</sup> of concrete, 11,042m <sup>3</sup> of sub-base, 1,454m <sup>3</sup> and 10,838 m <sup>3</sup> of bituminous material.
A19 Testos and Downhill Junction improvements	South Tyneside, Tyne and Wear	It is planned to raise the A19 above the A184 on a flyover.	Construction commenced in 2019 and was completed in early 2022.	Graded aggregates 140,000 m <sup>3</sup> , asphalt 40,000 m <sup>3</sup> , concrete (in situ) 4,800 tonnes and pre-cast concrete 648 tonnes.
International Advanced Manufacturing Park (IAMP)	South Tyneside and Sunderland, Tyne and Wear.	Development of manufacturing site targeting the automotive and advanced low carbon manufacturing sectors on 150 hectares of land to the north of the Nissan car manufacturing plant alongside the A19.	Phase one underway.	Not known
A1 Brunton to Scotswood widening	Newcastle, Tyne and Wear	Widening of A1 within existing carriageway to provide three lanes between Brunton and Scotswood.	Commenced March 2020 and completed late 2022.	Not known.
A1 Birtley to Coal House Roundabout	Gateshead, Tyne and Wear	Widening of A1 to provide three lane carriageway and replacement of railway bridge.	Construction commenced Summer 2021 and is expected to be completed in 2024/25.	Not known.
A19 Norton to Wynyard widening	Stockton on Tees, Tees Valley	Widening of existing dual carriageway to provide three lanes in each direction.	Work commenced in Spring 2020 and was completed in December 2021.	Not known.

Project	Location	Details	Timeframe	Demand for aggregates
Jade Enterprise Zone	County Durham	83ha mixed use development including industrial, storage and distribution uses, retail, housing, leisure and community facilities.	Planning permission granted February 2017. Phase 1 now completed.	Not known.
Durham City developments	County Durham	New business district on the current site of County Hall together with new County Hall and other developments on the River Wear at Durham and further expansion of premises for Durham University.	A number of projects underway.	Not known.

**Major development projects of note in Northumberland, North East England and surrounding areas - Potential future projects or projects yet to commence**

Project	Location	Details	Timeframe	Demand for aggregates
A1 dualling in Northumberland	Northumberland	Upgrade 13 miles of existing single carriageway to dual carriageway between Morpeth and Felton and between Alnwick and North Charlton.	Development Consent Order examination period ended in July 2021, with a decision by the Secretary of State now expected in September 2023. Construction could start in 2024.	Not known. Likely to create demand from quarries in the north of Northumberland in particular.
A66 dualling	North Yorkshire, County Durham and Cumbria	Upgrade 18 miles of existing single carriageway to dual carriageway between A1(M) at Scotch Corner and M6 at Penrith.	Preferred route consultation in 2021. Development Consent Order was submitted in Spring 2022. Decision expected in 2023. Construction could commence in 2024.	Not known. Likely to create additional demand from quarries in the south of County Durham, including those along the A66 corridor.
Teesside Combined Cycle Power Plant	Redcar and Cleveland	Construction of gas fired power station with an output of 1,700 MWe.	Development Order Consent granted 5 April 2019. Construction expected to take three years when begun.	Not known.

Northumberland Joint Local Aggregates Assessment (2021)

<b>Project</b>	<b>Location</b>	<b>Details</b>	<b>Timeframe</b>	<b>Demand for aggregates</b>
York Potash Harbour Facilities	Redcar and Cleveland	Construction of wharf facilities to handle polyhalite from a planned mine in North Yorkshire.	Consent granted. Construction believed to have commenced.	Not known.
Teesside Cluster Carbon Capture and Usage Project	Redcar and Cleveland	Combined cycle gas turbine electricity generating station with output of up to 2,000MW.	Development Consent Order application submitted 2020.	Not known.
Forest Park	County Durham	55 ha expansion of Aycliffe Business Park including new road, energy infrastructure and leisure and community uses.	Start date to be confirmed.	Not known.
British Volt Gigafactory	Northumberland	235ha electric car battery manufacturing site.	Received planning permission July 2021. Start date to be confirmed.	316,000 tonnes to create the surface for the foundational piles

## Appendix 2: Primary aggregates site in Northumberland

### Quarries with planning permission for crushed rock and sand and gravel extraction in Northumberland

Mineral Planning Authority	Site Name	Operator	Grid Reference	Mineral	Status in 2021	Planning Permission End Date
Northumberland County Council	Barrasford Quarry	Tarmac	NZ 913 743	Dolerite and Carboniferous limestone	Active	31/12/2038
	Belford Quarry	Tarmac	NU 130 342	Dolerite	Inactive	31/12/2031
	Cocklaw Quarry	Tynedale Roadstone	NY 931 701	Carboniferous limestone	Inactive	21/02/2042
	Cragmill Quarry	Breedon	NU 109 346	Dolerite	Active	21/02/2042
	Divethill Quarry	Breedon	NY 980 789	Dolerite	Active	31/12/2031
	Ebchester Quarry (Broadoak)	Tarmac	NZ 101 569	Sand and gravel	Inactive	31/12/2023
	Houghton Strother Quarry	Thompsons of Prudhoe	NY 897 740	Sand and gravel	Active	31/08/2022
	Howick Quarry	Tarmac	NU 236 168	Dolerite	Active	31/12/2022
	Keepersshield Quarry	Hanson	NY 894 727	Dolerite and Carboniferous limestone	Active	21/02/2042
	Lanton (Cheviot) Quarry	Tarmac	NT 954 311	Sand and gravel	Active	31/12/2028
	Longhoughton Quarry	K W Purvis	NU 232 153	Dolerite and Carboniferous limestone	Active	31/12/2029
	Merryshields Quarry	Thompsons of Prudhoe	NZ 064 618	Sand and gravel	Active	21/02/2042
	Mootlaw Quarry	North Tyne Roadstone	NZ 022 750	Carboniferous limestone	Inactive	31/12/2025
Port of Blyth - Battleship Wharf	Breedon	NZ 309 827	Sand and gravel	Active	Not applicable	

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Mineral Planning Authority	Site Name	Operator	Grid Reference	Mineral	Status in 2021	Planning Permission End Date
	Swinburne Quarry	Hanson	NY 948 765	Dolerite	Active	31/12/2036
	Wooperton Quarry	North East Concrete	NU 049 205	Sand and gravel	Active	31/12/2032
Northumberland National Park Authority	Harden Quarry	Tarmac	NT 959 086	Mica-porphyrite	Active	31/10/2029

### Appendix 3: Secondary and recycled aggregate facilities

This appendix provides details of permanent site producing recycled aggregates in Northumberland and sites producing secondary aggregates.

Site Name	Location	Operator	Grid reference	Material	Status	Planning permission end date
Barrington Transfer Station	Stephenson Way, Barrington Industrial Estate, Bedlington, NE22 7DL	Remondis	NZ 264 836	Construction, demolition and excavation wastes	Active	Not applicable
Burnt House Farm	Burnt House Farm, Nedderton Village, Bedlington NE22 6AZ	WPR Farms Limited	NZ 235 830	Construction, demolition and excavation wastes	Active	Not applicable
Coopies Haugh (Unit 20b), Morpeth	Unit 20B, Coopies Haugh Lane, Morpeth NE61 6JN	Clark Homes Limited	NZ 213 853	Construction, demolition and excavation wastes	Active	Not applicable
10 Ennerdale Road, Blyth	10 Ennerdale Road, Blyth NE24 4RT	S A Waste and Groundworks Limited	NZ 285 818	Construction, demolition and excavation wastes	Active	Not applicable
Factory Road, West Sleekburn	Factory Road, West Sleekburn, Bedlington, NE22 7DB	HFF Civil Engineering	NZ 291 849	Construction, demolition and excavation wastes	Active	Not applicable
Howford Quarry	Acomb, Hexham NE46 4RY	Howford Recycling Limited	NY 918 663	Construction, demolition and excavation wastes	Active	Not applicable
Unit 11, West Sleekburn Industrial Estate	Unit 11, West Sleekburn Industrial Estate, West Sleekburn NE22 7LQ	James Moscrop/ Moscrop Brothers	NZ 278 847	Construction, demolition and excavation wastes	Active	Not applicable

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Site Name	Location	Operator	Grid reference	Material	Status	Planning permission end date
Linton Colliery Yard	Linton Colliery Yard, Linton, Morpeth NE61 5SD	R Thornton and Co Ltd	NZ 262 914	Construction, demolition and excavation wastes	Active	Not applicable
Lynfield Park - Clark Homes	Lynfield Business Park, Ashington NE63 9YH	Clark Homes Ltd	NZ 290 901	Construction, demolition and excavation wastes	Active	Not applicable
Lynfield Park - RBB Processing	Lynfield Park, Ashington NE63 9YH	RB Blackburn Ltd	NZ 295 894	Construction, demolition and excavation wastes	Active	Not applicable
Lynemouth Power Station	Lynemouth Power Station, Ashington NE63 9NW	Lynemouth Power Limited	NZ 305 899	Ash	Active	2027
Old Stone Road	East Cramlington Industrial Estate, Old Stone Road, Cramlington NE23 6XW	East Cramlington Recycled Aggregates Ltd	NZ 286 759	Construction, demolition and excavation wastes	Active	Not applicable
Park View Holdings, Pegswood	Park View Holdings, Pegswood, Morpeth NE61 6UU	Sanders Plant and Waste Management Limited	NZ 231 873	Construction, demolition and excavation wastes	Active	Not applicable
Powburn Bridges Depot	Powburn Depot, Powburn NE66 4HY	Northumberland County Council	NU 054 169	Road planings	Active	Not applicable
Thornbrough Quarry	Thornbrough Quarry, Styford Lane, Corbridge NE45 5LX	Thompsons of Prudhoe	NZ 009 635	Construction, demolition and excavation wastes	Active	31/10/2023

## Appendix 4: Minerals processing infrastructure

Details of concrete making facilities, coated roadstone facilities and sites for the manufacture of concrete products in Northumberland are shown in the tables below.

The current operational coating plants in Northumberland are located at quarry sites while the concrete facilities are typically located as standalone facilities on industrial estates or in locations that are accessible from the main transport network. All of the facilities listed are located outside of the Northumberland National Park.

### Facilities for the manufacture of concrete in Northumberland

Site name	Location	Grid Reference	Operator	Planning permission end-date	Comments
Alnwick Concrete Plant	Old Gasworks, South Road, Alnwick, NE66 2PE	NU 196 124	Breedon	Not applicable	Standalone facility
Bedlington Concrete Plant	Barrington Road, Bedlington, NE22 7AL	NZ 272 832	Breedon	Not applicable	Standalone facility within industrial area
Battleship Wharf	Battleship Wharf, Blyth, NE24 1SD	NZ 309 827	Breedon	Not applicable	Standalone facility within port area
Belford South Farm	South Farm, Belford, NE70 7DP	NU 114 332	Gilbert Birdsall	Not applicable	Standalone facility
Haltwhistle	Townfoot, Haltwhistle, NE49 0ND	NY 711 639	Ritemix	Not applicable	Standalone facility within industrial area
Howford Quarry	Acomb, Hexham, NE46 4RY	NY 919 663	Hanson	Not applicable	Standalone facility located within a former quarry

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Site name	Location	Grid Reference	Operator	Planning permission end-date	Comments
Lynemouth	Lynfield Park, Ashington, NE62 9YH	NZ 295 895	H-Mix	Not applicable	Standalone facility
Red Row	Red Row, Bedlington, NE22 7AL	NZ 272 833	Breedon	Not applicable	Standalone facility within industrial area
West Sleekburn	Brock Lane, West Sleekburn, Bedlington NE22 7BY	NZ 285 841	Aggregate Industries	Not applicable	Standalone facility within industrial area

**Sites for the manufacture of concrete products in Northumberland**

Site	Location	Grid reference	Operator	Planning permission end-date	Comments
Lynx Precast	Lynfield Park, Ashington, NE63 9YH	NZ 294 897	Lynx Precast	Not applicable	Standalone facility within industrial area
Littlehoughton	Littlehoughton, Alnwick, NE66 3JX	NU 233 169	FP McCann	Not applicable	Standalone site located adjacent to Howick Quarry
West Sleekburn	Brock Lane, West Sleekburn, Bedlington, NE22 7BY	NZ 285 841	Aggregate Industries	Not applicable	Standalone facility within industrial area

**Facilities for the manufacture of coated materials in Northumberland**

Site name	Location	Location	Operator	Planning permission end date	Comments
Barrasford Quarry	Barrasford, Hexham, NE48 4AP	NY 913 743	Tarmac	31/12/2040	Within boundary of an active quarry
Cragmill Quarry	Belford, NE70 7EZ	NU 108 346	Breedon	21/02/2042	Within boundary of an active quarry
Divethill Quarry	Great Bavington, NE19 2BG	NY 978 795	Breedon	31/12/2023	Within boundary of an active quarry
Howick Quarry	Littlehoughton, Alnwick, NE66 3JY	NU 238 169	Tarmac	31/12/2023	Within boundary of an active quarry
Keepersshield Quarry	Humshaugh, Hexham, NE46 4BB	NY 895 727	Hanson	21/02/2042	Within boundary of an active quarry

## Appendix 5: Analysis of supply and production capacity

### Sand and gravel

Site name	Estimate of permitted reserves at 31 December 2021 (tonnes)	Estimate of productive capacity (tonnes per annum)	Planning permission end date	Permitted reserves to be exhausted by planning permission end date?	Comments on potential future supply
Ebchester Quarry	2,300,000	150,000	31/12/2023	No	Extraction is not currently taking place. The current planning permission requires extraction to cease by the end of 2023.  It is anticipated that a planning application to extend the time limit for extraction will be made and the current permitted reserves at this site will be available to contribute to supply over a longer period of time. This site is allocated in the Northumberland Local Plan.
Haughton Strother Quarry	0	150,000	31/08/2022	Yes	Reserves exhausted by the end of March 2021. No further supply from this site.
Lanton Quarry	950,000	150,000	31/12/2028	Yes	Extraction anticipated to be around 150,000 tonnes per annum until 2028.
Merryshields Quarry	0	30,000	21/02/2042	Yes	Reserves of sufficient quality for extraction thought to be exhausted. Not likely to contribute to supply after 2022.
Wooperton Quarry	850,000	100,000	31/12/2032	Yes	Extraction anticipated at a rate of 100,000 tonnes per annum until reserve worked out (potentially by 2030).

## Crushed Rock

Site name	Estimate of permitted reserves at 31 December 2021 (tonnes)	Estimate of productive capacity (tonnes per annum)	Planning permission end date	Permitted reserves to be exhausted by planning permission end date?	Comments on potential future supply
Barrasford Quarry	44,600,000	750,000 to 1,500,000	31/12/2038	No	Large reserve remaining at site and full productive capacity has not been utilised. Production at a rate of 750,000 per annum is anticipated although it is estimate current production is lower than this.
Belford (Easington) Quarry	3,000,000	180,000	21/12/2031	No	Site currently inactive. Operator could re-commence extraction once reserves at Howick Quarry are exhausted.
Cocklaw Quarry	700,000	150,000	21/02/2042	No (Assuming extraction does not commence)	A dormant planning permission for this site was reactivated in 2009 however development has yet to commence. Uncertainty as to whether there will be production from this site in future years.
Cragmill Quarry	7,800,000	200,000	22/08/2040	No	Extraction anticipated at a rate of 150,000 tonnes per annum.
Divethill Quarry	300,000	300,000	31/12/2023	Yes	Permitted reserves in previously permitted area exhausted in 2022. Lateral extension to the site granted permission in June 2022 (2.7 million tonnes) but not included in permitted reserve figure at this stage as this did not form part permitted reserves on 31 December 2021.

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Site name	Estimate of permitted reserves at 31 December 2021 (tonnes)	Estimate of productive capacity (tonnes per annum)	Planning permission end date	Permitted reserves to be exhausted by planning permission end date?	Comments on potential future supply
Harden Quarry	800,000	150,000	31/10/2029	Yes	Located in Northumberland National Park. Extraction anticipated at a rate of around 150,000 tonnes per annum. Extension granted permission in January 2023 however not included in permitted reserve figure at this stage as this did not form part permitted reserves on 31 December 2021.
Howick Quarry	900,000	150,000	31/12/2022	No	Estimated that there will be permitted reserves remaining at the 31 December 2022 but there is some uncertainty as to whether the reserves are of suitable quality for extraction.
Keepersshield Quarry	5,800,000	250,000	21/02/2042	No	Extraction anticipated at a rate of 250,000 tonnes per annum.
Longhoughton Quarry	1,400,000	200,000	31/12/2029	Yes	Extraction anticipated at a rate of around 200,000 tonnes per annum until 2030 (this includes the extraction of additional 1.75 million tonnes of reserves from eastern extension to site granted in 2019).
Mootlaw Quarry	4,100,000	750,000	31/12/2025	No	Site currently mothballed with no production since 2008. Some uncertainty regarding when production will commence or whether the site will be worked again.
Swinburne Quarry	6,500,000	150,000	31/12/2036	No	Production has resumed for the first time since the site was mothballed in the early 2000s. Extraction anticipated at a rate of 150,000 tonnes per annum.

## Appendix 6: Local Plan site allocations

### Sand and gravel

*Allocated sites for sand and gravel extraction in the Northumberland Local Plan*

Site allocation name	Estimate of potential reserves (tonnes)	Estimate of productive capacity (tonnes per annum)	Planning application and permission status	Comments on potential for extraction
Anick Grange Haugh	5,800,000	200,000	Planning application submitted in 2021 and current pending decision following a committee resolution to grant planning permission in December 2022.	Expected to contribute to supply from 2023 onwards for up to 25 years.
Wooperton Quarry (east extension)	1,000,000	100,000	No planning application submitted to date.	Anticipated that this site will be worked from 2030 onwards when the existing permitted reserves at Wooperton Quarry are exhausted.
Ebchester Quarry	2,300,000	150,000	Site currently has planning permission which requires extraction to cease by 31/02/2023. No planning application to extend the time limit has been submitted to date.	Reserves currently included in the landbank. Anticipated that this site will contribute to supply after 2023.

Notes: No sites are allocated for sand and gravel extraction in the Northumberland National Park Local Plan (July 2020)

## Crushed rock

### Site allocations for crushed rock extraction in the Northumberland Local Plan

Quarry	Estimate of potential reserves (tonnes)	Estimate of productive capacity (tonnes per annum)	Planning application and permission status	Comments on potential contribution to future supply
Belford Quarry (extension)	5,000,000	180,000	No planning application submitted to date.	Existing site currently inactive. Operator could re-commence extraction once reserves at Howick Quarry are exhausted. Anticipate this will contribute to supply after 2030.
Divethill Quarry (north and east extensions)	6,600,000	300,000	Planning application for northern extension submitted in October 2020 and granted in June 2022.  No planning application submitted for eastern extension to date.	North extension added 2.7 million tonnes of permitted reserves to the landbank and will contribute to supply from late 2022 to 2031.  East extension is expected to contribute to supply from 2031 onwards.
Longhoughton Quarry (east extension)	1,750,000	200,000	Planning permission granted in 2019 (18/01285/CCMEIA)	Permitted reserves included in the landbank for Northumberland. Site will contribute to supply until 2029.
Northside Quarry	4,000,000	250,000	Application for planning permission submitted in May 2022. Decision pending.	Could contribute to supply from 2023.
Shiel Dykes	3,000,000	200,000	Application for planning permission submitted September 2020. Decision pending.	Could contribute to supply from 2023.

Notes: No sites are allocated for sand and gravel extraction in the Northumberland National Park Local Plan (July 2020)

## Appendix 7: Planning applications

This appendix provides details of planning applications relating to proposals for the extraction of additional reserves of primary aggregates.

It reports on planning applications and decisions between 1 January 2012 and 31 December 2021. Applications submitted and decisions after 31 December 2021 will be reported in future annual updates of the LAA. The information presented also excludes applications such as time extensions and period reviews where reserves are already included in the landbank.

Mineral Planning Authority	Site name and location	Operator / Applicant	Type of Application	Mineral	Tonnage (for aggregate use)	Date submitted	Decision
Northumberland National Park Authority	Harden Quarry Biddlestone (NY 959 086)	Lafarge Tarmac	Extension to existing site	Mica-porphyrite	1,100,000	16 April 2014	Granted 11 December 2014
Northumberland County Council	Cragmill Quarry Belford (NU 113 346)	CEMEX	Extension to existing site	Dolerite	6,300,000	16 April 2015	Granted 01 December 2015
Northumberland County Council	Longhoughton Quarry Longhoughton (NU 232 153)	KW Purvis	Extension to existing site	Dolerite	765,000	19 February 2016	Granted 05 August 2016
Northumberland County Council	Wooperton Quarry Wooperton (NU 048 204)	North East Concrete	Extension to existing site	Sand and gravel	500,000	6 October 2017	Granted 14 August 2018
Northumberland County Council	Divet Hill Quarry Great Bavington (NY 978 794)	CEMEX	Extension to existing site	Dolerite	700,000	27 December 2017	Granted 09 May 2019

Northumberland Joint Local Aggregates Assessment (2021)

Mineral Planning Authority	Site name and location	Operator / Applicant	Type of Application	Mineral	Tonnage (for aggregate use)	Date submitted	Decision
Northumberland County Council	Longhoughton Quarry Longhoughton (NU 232 153)	K W Purvis	Extension to existing site	Dolerite and Carboniferous limestone	1,750,000 (1,600,000 tonnes of dolerite and 125,000 tonnes of limestone)	10 April 2018	Granted 08 November 2019
Northumberland County Council	Shiel Dykes Quarry Newton on the Moor (NU 149 071)	North East Concrete	New site	Dolerite	5,000,000	07 September 2020	Pending at 31 December 2021
Northumberland County Council	Divethill Quarry Great Bavington (NY 980 789)	Breedon	Extension	Dolerite	2,700,000	30 October 2020	Pending at 31 December 2021
Northumberland County Council	Anick Grange Haugh Hexham (NY 956 643)	Thompsons of Prudhoe	New site	Sand and gravel	5,800,000	25 June 2021	Pending at 31 December 2021

Notes:

Table includes planning applications submitted or determined between 1 January 2012 and 31 December 2021.  
Tonnages quoted are the reserves identified for aggregates uses in the planning application.

*Northumberland Joint Local Aggregates Assessment (2021)*

The table below summarises the tonnages of reserves for aggregate uses either granted or refused planning permission between 1 January 2012 and 31 December 2021, or planning applications pending a decision on 31 December 2021.

<b>Planning application status (as at 31/12/2021)</b>	<b>Sand and gravel (thousand tonnes)</b>	<b>Crushed rock (thousand tonnes)</b>	<b>Total (thousand tonnes)</b>
Granted	500	10,615	11,115
Refused	0	0	0
Pending	5,800	7,700	13,500



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