County Durham Local Aggregate Assessment (April 2023)

(2021 Sales & Reserves Data)

Accessible Version

Spatial Policy Team.

Durham County Council, April 2023.

Contents

Executive Summary

ES1 A Local Aggregate Assessment (LAA) is an annual assessment of the demand for and supply of aggregates in a mineral planning authority's area. This LAA has been prepared by Durham County Council it is an updated version of the Council's previous LAA which for many years was prepared jointly with Council's in Northumberland and Tyne & Wear. However, due to a timing issue a multi authority Joint LAA has not been prepared this year.

ES2 The LAA monitors the provision of aggregates and likely future demands and provides evidence for both the implementation of the County Durham Plan and preparation of the Council's emerging Minerals and Waste Policies and Allocations document. It contains forecasts for future working over the remaining fourteen year period of the County Durham Plan (to 2035) and the standard 16 year LAA forecasting period (to 2037). It 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 the LAA area

ES3 The geology of the County gives rise to the following aggregate resources:

- Carboniferous limestone – Found in the west of the County along the sides of Weardale and to the south of Barnard Castle along the alignment of the A66.
- Permian magnesian limestone – This resource underlies the majority of the east of County Durham.
- Igneous rock – This resource outcrops in Upper Teesdale.
- Sand and gravel (superficial deposits) – Fluvial, glacial and beach and blown sand deposits are found across the County, including in the major river valleys of the River Wear and River Tees.
- Sand (bedrock deposits) – Basal Permian sand outcrops intermittently along the magnesian limestone escarpment and lies below the Permian magnesian limestone where is it accessible following working of the overlying limestone.

ES4 No marine aggregates are landed within the County. However, marine dredged sand and gravel landed within the North East may be consumed within County Durham. Quantities of recycled aggregates also arise in the County.

Demand indicators

ES5 In line with the NPPF and the accompanying guidance outlined in Planning Practice Guidance, the starting point to calculating future demand has been to use the rolling ten year sales average and other relevant local information. 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 average sales three year periods to identify the general trend of demand in comparison to the ten year average as part of the consideration of whether it might be appropriate to increase supply. Consideration has also been had to the published National and Regional Aggregate Supply Guidelines which were published in June 2009.

ES6 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 of the 10 year sales average it is not anticipated that this will place an increase in demand for aggregates over and above that captured by the sales average figure. The effect of the coronavirus pandemic on sales in 2020 has also been a consideration and is discussed.

Balance between supply and demand

ES7 A quantitative assessment of the balance between permitted reserves and the calculated demand is set out below. Demand has been calculated using the provision set out in this LAA (Annual Demand Requirement) and this annual figure has been extrapolated forward from 2022 for a period of 14 years to align with the end of the County Durham Plan period (which runs to 2035) and the standard 16 year period (to 2037) which has also been used in previous LAAs. Further details are set out in chapter 6 and 7 for sand and gravel and crushed rock respectively.

Table ES1 Balance between supply and demand (thousand tonnes)

Resource	Permitted Reserves 2020	Permitted Reserves 2021	Annual Demand Requirement	Demand 2022 to 2035 (14 years)	Balance Between Demand and Supply 2022 to 2035	Demand 2022 to 2037 (16 years)	Balance Between Demand and Supply 2022 to 2037
Crushed Rock	97,468	93,810	3,320	46,620	+47,190	53,280	+40,530
Sand and Gravel	5,247	4,636	512	7,168	-2532	8,192	-3,556

ES8 The table above shows that County Durham has sufficient permitted reserves of crushed rock to meet future need from quarries in the long term. However, previous consideration of the composition of the crushed rock landbank has led to a need being identified for additional carboniferous limestone working. This need has in turn been reflected in the adopted County Durham Plan (October 2020) and two allocations for further working have been made, one of which has now been granted planning permission. Otherwise it is not considered necessary to make provision to increase supply of crushed rock.

ES9 The table above shows that County Durham does not have sufficient permitted reserves of sand and gravel to meet future need in the long term. It is recommended that the Council should seek where possible to allocate further permitted reserves of sand and gravel to meet longer term need through future work to prepare its Minerals and Waste Policies and Allocations Document.

ES10 Several crushed rock quarries and one sand and gravel quarry in County Durham have been inactive for a number of years, and two crushed rock and three sand and gravel quarries all have end dates before 2037. In order to maintain productive capacity, planning decisions will need to ensure that proposals to reopen inactive sites and extend the period of working at existing active sites, if permitted reserves still remain at the quarry end date of working, are considered positively.

Inter mineral planning authority issues

ES11 Information on movements of aggregate minerals from quarries and wharves to destination sub-regions is provided by the national aggregate minerals survey, which was last undertaken in 2019 by the British Geological Survey on behalf of the Department for Communities and Local Government and the Welsh Assembly. From the survey the most significant cross boundary movements involving the LAA area have been identified as:

- Supply of crushed rock and sand and gravel from quarries in County Durham to Tyne and Wear;
- Supply of crushed rock and sand and gravel from County Durham to Tees Valley;
- Supply of crushed rock from County Durham to North Yorkshire; and
- Supply of crushed rock and sand and gravel from quarries in North Yorkshire to County Durham.

Dashboard

Table ES2 Dashboard for County Durham

Aggregate type	Sales 2020 (tonnes)	Sales in 2021 (tonnes)	Ten Year sales average (tonnes)	Three Year Sales average 2018-2019 and 2021 (tonnes)	Trend	Annual Demand Requirement (Tonnes)	Permitted Reserves 2021 (tonnes)	Landbank (Years)	Comments
Sand and Gravel	419,000	553,000	355,600	512,000	Up	512,000	4,636,000	9	Sales have increased since 2018 due to four sites being in production.
Crushed Rock	2,591,000	3,220,000	2,754,000	3,320,000	Up	3,320,000	93,810,000	28.2	Significant permitted reserves remain available in active and inactive sites.
Recycled and Secondary Aggregates	135,000	111,000	n/a	0	Down	n/a	n/a	n/a	
Marine sand and gravel and rock imports landed by sea.	0		0	0	n/a	0	n/a	n/a	No current wharf sites so no landings.

ES12 County Durham continues to make a very good contribution to the steady and adequate supply of aggregates. Crushed Rock permitted reserves are extensive, they are distributed across a number of sites which are well related to the market in the North East and have been replenished by a number of new permissions in recent years. Crushed Rock sites also contain significant unrealised productive capacity and following the recession have been able to successfully respond to increases in demand by increasing sales. The potential for a number of inactive and dormant permissions to recommence working in future years is good with a number of applications pending consideration. Due to the reported fall in permitted reserves of sand and gravel and increase in the annual demand requirement the Council should seek to allocate further permitted reserves of sand and gravel to meet longer term need through work to prepare its emerging Minerals and Waste Policies and Allocations document.

1 Introduction

1.1 To plan for a steady and adequate supply of aggregates the National Planning Policy Framework (NPPF) (July 2021) states, amongst other things, that mineral planning authorities should prepare a Local Aggregate Assessment (LAA). The LAA provides a forecast of demand for aggregates, an analysis of supply options and assesses the balance between supply and demand. It therefore provides 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 County Durham. It is an updated version of the Council's previous LAA which was prepared jointly with Council's in Northumberland and Tyne and Wear. Due to a timing issue a Joint LAA has not been prepared this year.

- Chapter 2 of this document provides further background information on LAAs, the Managed Aggregates Supply System and how this LAA was prepared.
- Chapter 3 provides details of the aggregate resources in the LAA area.
- Chapter 4 provides information on supply and demand pressures including those from house building and major infrastructure projects, it considers the impact of the Coronavirus Pandemic and also considered resource availability and constraints on supply in the North East and from adjoining North Yorkshire.
- Chapter 5 provides details of secondary and recycled aggregates production.
- Chapter 6 provides details of sand and gravel, it considers the scale of land won provision, the scale of marine dredged sand and gravel landings, imports and exports, calculates future demand and considers reserves and landbanks, identifies a forecast for the scale of future provisions and considers wider supply considerations.
- Chapter 7 provides details of crushed rock, the scale of recent sales, imports and exports, calculates future demand and considers reserves and landbanks, identifies a forecast for the scale of future provisions and considers wider supply considerations.
- Appendix A includes information on existing extraction sites.
- Appendix B includes information on recycled aggregates and secondary aggregates facilities.
- Appendix C includes information on mineral transport and processing infrastructure.
- Appendix D includes information on existing and emerging Local Plans.
- Appendix E includes information on major development projects of note in County Durham and surrounding areas including projects completed in recent years, projects currently being constructed and potential future projects or projects yet to commence.

2 Background/context

2.1 This section provides background information on the purpose of the LAA, the Managed Aggregates Supply System (MASS) and how the document has been prepared.

What are aggregates?

2.2 Aggregates are defined as being hard, granular materials which are suitable for use either on their own or with the addition of cement, lime or a bituminous binder in construction. The most important applications for aggregates include concrete, mortar, roadstone, asphalt, railway ballast, drainage courses and bulk fill.

2.3 A distinction is often made between primary aggregates and aggregates from alternative sources (i.e., secondary aggregates and recycled aggregates):

- Primary aggregates are produced from naturally occurring mineral deposits, extracted specifically for use as aggregates and are used for the first time. Most primary aggregates are produced from hard, strong rock formations by crushing to produce crushed rock aggregate or from naturally occurring particulate deposits such as sand and gravel.
- Secondary aggregates are usually defined as aggregates obtained as a by-product of other mining or quarrying operations or aggregates obtained as a by-product of other industrial processes.
- 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 and from railway track ballast. Recycling involves the processing of the waste material so that it can be made into new materials for aggregate uses.

What is a Local Aggregate Assessment?

2.4 The principal purpose of an LAA is to set out the current and future aggregate supply situation in a particular area with respect to all aspects of aggregates supply including:

- Land won resources including landbanks and allocations;
- Secondary aggregates, whose sources come from industrial wastes such as glass, ash, railway ballast, fine ceramic waste and scrap tyres; and industrial and minerals by-products, notably waste from China clay, coal and slate extraction and spent foundry sand;
- Marine sources, from areas licensed by the Marine Management Organisation (MMO) for marine sand and gravel dredging. The MMO has been preparing Marine Plans around England to guide the licensing process and the North East Marine Plan was adopted in June 2021[1]; and
- Imports into, and exports out of, the MPA area. The MPA must capture the amount of aggregate that it is importing and exporting as part of its Assessment.

[1] https://www.gov.uk/government/publications/the-north-east-marine-plans-documents

2.5 In particular an LAA is expected to include:

- A forecast of the demand for aggregates based on the average of 10 years sales data and other relevant local information, including for example, the National Infrastructure Plan. MPAs should also look at the average 3 year sales in particular to identify the general trend of demand as part of the consideration of whether it might be appropriate to increase supply;
- An analysis of all aggregate supply options, as indicated by landbanks, development plan allocations and capacity data e.g., marine licences for marine aggregate extraction and the potential throughput's from wharves. This analysis should be informed by planning information, the aggregate industry and other bodies; 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.

2.6 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 production.

Approach to the Local Aggregate Assessment

2.7 Previous iterations of the LAA have been prepared jointly by Durham County Council, Northumberland County Council, Northumberland National Park Authority and the Tyne and Wear authorities of Gateshead Council, Newcastle City Council, North Tyneside Council, South Tyneside Council and Sunderland City Council. Due to time constraints, the 2021 LAAs for Northumberland, County Durham and Tyne and Wear have been prepared separately.

2.8 Despite this, all afore-mentioned mineral planning authorities have still worked collaboratively on their preparation of the LAAs to ensure cross boundary issues are considered and approaches are consistent. It is considered therefore that the preparation of separate LAAs this year does not diminish the ongoing commitment to work collaboratively on cross boundary minerals planning issues and in order to satisfy the 'Duty to Cooperate' as set out in Section 110 of the Localism Act.

Timescale for the Local Aggregate Assessment

2.9 Given the long-term nature of aggregate mineral working and the need to ensure that a steady and adequate supply of aggregates is maintained in the long term, this LAA looks forward over a time horizon that allows an understanding of aggregate supply requirements that Local Plans should make provision for. In addition to the County Durham Plan time period which runs to 2035 a sixteen year time period is also used, from 2022 to the end of 2037 in line with the time horizon that the national and sub national guidelines for aggregates has covered in the past.

Overview of the data used

2.10 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 Aggregate Minerals Survey for England and Wales on sales, movement, consumption and permitted reserves of aggregate minerals normally undertaken every four years[2];
- North East Aggregates Working Party Annual Aggregates Monitoring Reports and survey results[3];
- Report for the North East Aggregates Working Party Apportionment of North East Region Guidelines for Aggregates Provision Environmental Report (Entec, May 2010)[4];
- Relevant information from planning application documentation;
- Information on permitted reserves and sales provided to the MPAs in planning applications and non-confidential survey information returned by operators to individual MPAs (where available) or where such information is not available best estimates have been used;
- Data and information on mineral resources held by the British Geological Survey and the Crown Estate; and
- Environment Agency and other local data on the arisings of and recovery/disposal routes of construction and demolition waste, including inert waste to restore mineral sites.

Managed Aggregates Supply System

2.11 The 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. MASS has operated since the 1970s and involved the Government providing guidelines for the provision of aggregates at both a national and regional level, based on forecasts of demand, and then apportioning these guidelines to individual MPAs based on the advice of the AWP.

2.12 In line with the Government's principles of a more local approach to planning matters, the approach to the MASS has been amended. These reforms maintain the main principles of MASS but each MPA is now required to prepare an LAA. The LAA is required to assess the demand for aggregates and the supply of aggregates to determine the appropriate level of aggregate extraction in their area.

2.13 The national and sub-national guidelines, published by Government, provide an indication of the total amount of aggregate the MPAs within each AWP cluster should collectively seek to provide as well as providing the MPAs with some context and understanding of the overall demand. The guidelines are based on forecasts of

[2] The Collation of the Results of the 2019 Aggregate Minerals Survey for England and Wales can be downloaded here:https://www.gov.uk/government/publications/aggregate-minerals-survey-for-england-and-wales-2019.
[3] North East Aggregates Working Party Annual Monitoring Reports can be downloaded here: http://www.northumberland.gov.uk/Planning/Planning-policy/Reports.aspx#mineralswastestudies
[4] The Report for the North East Aggregates Working Party Apportionment of North East Region Guidelines for Aggregates Provision Environmental Report can be downloaded here: http://www.northumberland.gov.uk/Planning/Planning-policy/Reports.aspx#mineralswastestudies

demand for aggregates. The most recent 'National and Regional Guidelines for the provision of aggregate minerals in England' were published in June 2009 and cover the 16 year period from 2005 to 2020 (see Table 2.1). However, given that the time period of these guidelines have now expired, it is considered that they are now out of date and in urgent need for review.

Table 2.1 National and sub-national guidelines for aggregates provision in England, 2005 to 2020 (all figures are million tonnes)

Region	Guidelines for land-won production Sand and Gravel	Guidelines for land-won production Crushed Rock	Assumptions Marine Sand and Gravel	Assumptions Alternative Material	Assumptions Net Imports to England
South East England	195	25	121	130	31
London	18	0	72	95	12
East of England	236	8	14	117	7
East Midlands	174	500	0	110	0
West Midlands	165	82	0	100	23
South West England	85	412	12	142	5
North West England	52	154	15	117	55
Yorkshire and Humber	78	212	5	133	3
North East England	24	99	20	50	0
England	1,028	1,492	259	993	136

Source: DCLG (2009). National and regional guidelines for aggregates provision in England 2005-2020. Department for Communities and Local Government, June 2009. Available at: https://www.gov.uk/government/publications/national-and-regional-guidelines-for-aggregates-provision-in-england-2005-to-2020.

3 Aggregate resources in County Durham

3.1 This section identifies the range and distribution of aggregate resources in County Durham.

3.2 County Durham is a geologically complex County. A wide range of rocks and more recent sedimentary deposits are found throughout the County. The extent of potential mineral resources which are potentially available for extraction is defined by this complex geology. County Durham's geology gives rise to the following aggregate resources:

- Permian magnesian limestone;
- Carboniferous limestone;
- Igneous rock; and
- Sand and gravel (fluvial, glacial and basal Permian sand).

3.3 The spatial distribution of mineral resources within County Durham and the location of both active and dormant mineral sites in County Durham (as listed in Appendix A) are shown on the County Durham Plan Policies Map: https://maps.durham.gov.uk/localplan/default.aspx The geology of County Durham can also be seen on the Mineral Resource Map for County Durham and the Tees Valley which was produced by the British Geological Survey which can be downloaded here: https://www2.bgs.ac.uk/mineralsuk/download/england/durhamMap.pdf

3.4 Two types of limestone are extracted in County Durham, magnesian limestone and carboniferous limestone. Although both are limestones, the two types are different in terms of their physical properties and make up. This is related to the environment in which they were formed, as well as the types of materials that formed them.

Permian magnesian limestone

3.5 The magnesian limestone resource in County Durham is of both local and national importance and it is the most important mineral resource currently worked in County Durham.

3.6 Magnesian limestone underlies the majority of east Durham and at its eastern edge forms a bold escarpment running in a north-south direction between Pittington and Ferryhill and then south-westwards, with the escarpment gradually disappearing to the south of Shildon. To the north of Pittington, the escarpment gradually disappears towards the adjoining MPA area of Sunderland in Tyne and Wear.

3.7 The magnesian limestone resource is understood to be highly variable, both regionally and locally. Within County Durham the lower magnesian limestone (also known as the Raisby formation), which only outcrops extensively along the escarpment between Pittington and Shildon in County Durham, is the most important formation of the magnesian limestone succession due to its chemical qualities, purity and range of applicable uses. In the past most quarrying for aggregate uses has been from the lower magnesian limestone, with the overlying limestones of the

Middle Magnesian Limestone (Ford formation) generally not being suitable for aggregate use, apart from granular sub-base of fill applications. Similarly, the Upper Magnesian Limestone has not been extensively quarried as generally (although with some exceptions) it is only suitable for low grade aggregate uses, such as granular sub-base roadstone and fill.

Carboniferous limestone

3.8 The carboniferous limestone resource in County Durham outcrops in West Durham fairly continuously along the sides of Weardale above Frosterley and to the south of Barnard Castle along the A66. Although similar in some respects to magnesian limestone, carboniferous limestone often differs in some of its physical properties. In particular, it tends to be harder and more durable than magnesian limestone. It resists weathering and can be used in situations where it is frequently exposed to precipitation and freezing. Accordingly, it is used predominantly for such things as road building and maintenance, concrete manufacture and sea defence works.

Dolerite

3.9 The dolerite resource in County Durham is found as intrusions in the carboniferous limestone series in the west of the County. It is considered an important source of crushed rock aggregate. The most important of these is the series of intrusions collectively known as the Whin Sill, from which the term whinstone is derived. The Whin Sill is a sheet intrusion of dolerite and is up to 70 metres thick where it outcrops in Upper Teesdale (within the North Pennines). Coupled to the sill are a number of dykes which run through the country rock to the eastern side of County Durham.

3.10 Dolerite is an igneous rock it is exceptionally hard and durable and has a high polished stone value (PSV). These qualities make it an important source of high specification roadstone for the top wearing course of roads which have to withstand heavy volumes of traffic. It is also used as a concrete aggregate and in the construction of sea defences.

Sand and gravel

3.11 County Durham contains two main categories of sand and gravel:

- Superficial deposits which include sand and gravel which was deposited by fluvial, fluvio-glacial or fluvial processes and beach and blown sand deposits; and
- Bedrock deposits and these are only represented by basal Permian sand as it is understood that the working of beach sand deposits is not a prospect.

3.12 Information on the known or suspected location of sand and gravel resources in the County are set out in two principal sources. The British Geological Society (BGS) report 'Durham and the Tees Valley Mineral Resources and Constraints' and an independent study carried out by Engineering Geology Ltd for the Department of the Environment in 1989 using existing borehole and geological information, 'Assessment of the potentially workable sand and gravel resources of County Durham'. Both reports draw upon a series of sand and gravel Mineral Assessment Reports produced by the Institute of Geological Sciences in the period between 1979

and 1982. While the information which is available is recognised as the best available it is important to note that there is no definitive information on the precise extent and occurrence of sand and gravel in the County. As the BGS report notes, "The variability of sand and gravel together with their possible concealment within or beneath glacial till (boulder clay), means that, compared to other bulk minerals, it is more difficult to infer the location and likely extent of potentially workable resources from geological maps."

3.13 Glacial sand and gravel deposits are found in all parts of the County although they are more common in the central and eastern parts including around Chester-le-Street and Durham. In certain areas they have been assessed as being up to 30 metres thick, but this assessment is problematic, given their origin they can disappear within a short distance. In addition, in certain areas such as the Durham Coalfield area they can contain a significant proportion of organic material, particularly coal. Fluvial sand and gravel deposits include post-glacial river terrace deposits, alluvial deposits and fluvio-glacial deposits. Alluvial deposits are developed along the major river valleys. They are widespread and are well developed on both the River Tees and River Wear and some of the major tributaries. Fluvio-glacial deposits also occur in the area. These are the material left by the melt waters of glaciers. They give rise to more uniform deposits of sand and gravel than glacial deposits, although the quality is generally not up to that of river terrace deposits, particularly those of the River Tees.

3.14 Basal Permian Sand is a bedrock deposit of sand, laid down under desert conditions. It consists of weakly cemented, yellow, fine to medium grained well sorted sands of wind-blown origin, with only a small proportion of fines or coarse sand and gravel. It occurs in County Durham in four linear deposits, or ridges (southwest of Hetton, Haswell, Thornley and West Cornforth) which outcrop intermittently along the base of the Magnesian Limestone Escarpment and continue for some distance and dip to the east under the Magnesian Limestone. It is understood that that these ridges are between one and two kilometres wide with sand thicknesses of up to 35 metres in depth. Due to the eastward dip of the resource and due to the presence of the overlying deepening magnesian limestone, the economically accessible resources does not occur very far beyond the outcrop unless the resource is worked following the extraction of the overlying magnesian limestone.

4 Supply and Demand Pressures

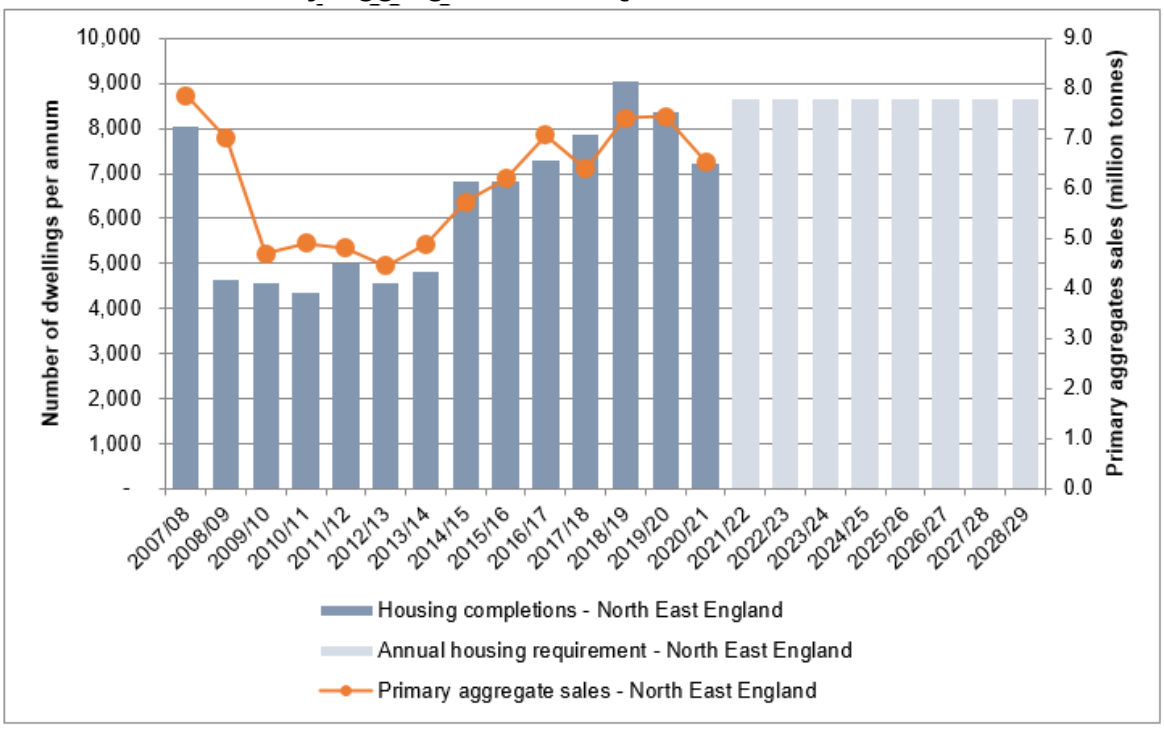
4.1 The NPPF states that mineral planning authorities should plan for a steady and adequate supply of aggregates by preparing a LAA based on a rolling average of 10 years sales data plus other relevant local information. This relevant information can include demand from future housebuilding rates as 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.

4.2 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. It also considers the impact of the Coronavirus Pandemic on sales and also considers resource availability in adjoining Council areas.

House building

4.3 A comparison between housing completions in North-East England and sales of primary aggregates from quarries and wharves is shown in Figure 1. The strong correlation illustrates the linear relationship between housing completions and primary aggregate sales in the region.

Figure 1 Comparison Between Housing Completions In North-East England And Sales Of Primary Aggregates From Quarries And Wharves



4.4 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[5]. However it is 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.

4.5 Table 4.1 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 for all North East Council's. However, net completions data for County Durham is available and in 2021/22 net annual completions were 1,671 dwellings. At this stage, it is assumed that housing completions will be broadly similar to previous years, (with the exception of 2020 where construction activity was impacted by the Coronavirus Pandemic), across most if not all North East Council's. Should this assumption turn out to be incorrect then the LAA process and conclusions will be reviewed.

Table 4.1 Comparison between local assessment of housing need and housing completions 2019-2022

Sub region	Local Planning Authority	Current local assessment of housing need in Adopted and emerging Local Plans	Net Annual Completions 19/20	Net Annual Completions 20/21
Durham	Durham County Council(1)	1,308	1,628	1,328
Northumberland	Northumberland County Council(2)	885	1,690	1,350
Tyne and Wear	Newcastle(3)	1,500	810	1,130
Tyne and Wear	Gateshead(4)		300	310
Tyne and Wear	Sunderland(5)	745	570	610
Tyne and Wear	South Tyneside(6)	321	190	170
Tyne and Wear	North Tyneside(7)	790	490	370
TOTAL for Tyne and Wear		3,356	2,360	2,590
Tees Valley	Hartlepool(8)	410	170	160
Tees Valley	Middlesbrough(9)	410	510	350
Tees Valley	Stockton on Tees(10)	655	990	590
Tees Valley	Darlington(11)	492	450	490
Tees Valley	Redcar and Cleveland(12)	234	350	350
TOTAL for the Tees Valley		2,201	2,470	1,940

1.County Durham Plan (Adopted October 2020) 2. Northumberland Local Plan (Adopted March 2022) 3.Core Strategy and Urban Core Plan (Adopted 2015) 4.Core Strategy and Urban Core Plan

[5] Office for National Statistics.

(Adopted 2015). 5.Core Strategy and Development Plan (Adopted 2020) 6. Regulation 18 Consultation Draft Local Plan (June 2022). 7.North Tyneside Local Plan (Adopted 2017) 8. Hartlepool Borough Local Plan (Adopted 2018).

Major Infrastructure/Construction Projects

4.6 Appendix E provides details of past major infrastructure and construction projects, both within the LAA area and in adjoining areas as well as future planned projects.

4.7 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 quarries and wharves from County Durham and adjoining areas of the North East. 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 in the north of the county, or the upgrading of the A66 in North Yorkshire, County Durham and Cumbria For example, the upgrading of the A66 could place demands on carboniferous limestone quarries along the A66 in County Durham and in neighbouring areas of North Yorkshire. However, as stated it is expected such demand from this project will be similar to that which has occurred in the recent past through the upgrading of the A1(M) in North Yorkshire over the period 2014 to 2018.

Impact of the Coronavirus pandemic

4.8 As a consequence of the restrictions to control spread of coronavirus, the vast majority of construction sites were temporarily closed for a period from mid-March 2020. The majority 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 in the North East during this period, likely as a result of these restrictions.

4.9 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 also possible that some sales are also 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.

4.10 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.

Resource Availability and Supply Constraints in other parts of the North East of England and adjoining areas

4.11 It is recognised that there is also a need to consider resource availability and other supply options in considering the relevant level of provision. County Durham along with Northumberland have both been for many years major suppliers of both crushed rock aggregate and sand and gravel aggregate in the North East region.

4.12 As can be seen through consideration of information within this LAA, in 2021 quarries in County Durham supplied approximately 49% of all land won sand and gravel and approximately 58% of all crushed rock aggregate (excluding that which was landed in wharfs in the North East of England). Sales of both crushed rock and sand gravel from County Durham have increased from a ten year low in 2012 to a ten year high in 2021. Similar trends have also occurred across the North East.

Tyne and Wear Local Aggregate Assessment 2021

4.13 Consideration has been given to the contents of the Tyne and Wear LAA 2021 which is a major centre of demand in the North East along with the Tees Valley conurbation.

4.14 In terms of sand and gravel, it is clear that quarries within Tyne and Wear should be able to maintain sales of sand and gravel at existing levels throughout the forecasting periods of this LAA. Paragraph 6.20 of the Tyne and Wear LAA 2021 indicates that, “As at 31 December 2021, 5,420,000 tonnes of permitted reserves are estimated to be remaining to be worked in Tyne and Wear. Based on a recommended annual provision from Tyne and Wear of 250,000 tonnes, this equates to a landbank of permitted reserves of 21.7 years at 31 December 2021 (based upon the annual demand requirement in this LAA area).”

4.15 It is also noted that the Tyne and Wear LAA also recommends that “Local Plans and decisions on planning applications should, in principle, support additional areas for extraction where environmentally acceptable. This is considered necessary in order to avoid a reliance on supply from a single site, avoiding limiting the future scale of production to that of Eppleton Quarry or even the eventual cessation of the extraction of this resource from this area as well as helping to ensure that an appropriate contribution to local and wider needs is made”. In addition it is noted that within Tyne and Wear there are a number of wharves where marine dredged sand and gravel is landed and sold for aggregate uses. In 2021, material was landed at Port of Tyne and Jarrow Wharf both in South Tyneside. In 2021 over 350,000 tonnes of marine dredged sand and gravel was landed.

4.16 Given the provisions with the Tyne and Wear LAA which support additional areas of extraction and the current 21.7 year landbank of sand and gravel, with land won sales being supplemented by material landed at wharfs, it is not considered necessary for this LAA to make additional provision to meet any shortfall in sand and gravel production from Tyne and Wear.

4.17 In terms of crushed rock, it is clear that quarries within Tyne and Wear may not be able to maintain sales of crushed rock at existing levels throughout the forecasting period of the LAA. Paragraph 7.14 of the Tyne and Wear LAA indicates

that, “As at 31 December 2021 it is estimated that approximately 5,260,000 tonnes of permitted reserves remained to be worked in Tyne and Wear. Based on a recommended annual provision from Tyne and Wear of 526,000 tonnes, this equates to a landbank of permitted reserves of 10.0 years at 31 December 2021 (based upon the annual demand requirement in this LAA”.

4.18 It is also noted that the Tyne and Wear LAA also recommends that, Local Plans and in decisions on planning applications should, in principle, support additional areas for extraction where environmentally acceptable. This is considered necessary in order to avoid a reliance on supply from a single site, avoiding limiting the future scale of production to that of Eppleton Quarry as well as helping to ensure that an appropriate contribution to local and wider needs is made. The scale of provision should be to a level of at least that in the LAA.” In addition it is noted that within Tyne and Wear there are a number of wharves where crushed rock is landed sold for aggregate uses. This includes Hayhole Road Wharf (North Tyneside) and Port of Tyne (South Tyneside) on the River Tyne and the Port of Sunderland. It is understood that the material is sourced from Norway and Glensanda Quarry in Scotland. Sales in 2021 were estimated to be roughly 110,000 tonnes. This is generally consistent with previous years, albeit a significant decrease on sales recorded in 2019.

4.19 Given the provisions with the Tyne and Wear LAA which support additional areas of extraction and the current ten year landbank of crushed rock aggregate, with land won sales being supplemented by which is supplemented by material landed at wharfs, it is not considered necessary for this LAA to make additional provision to meet any shortfall in production from Tyne and Wear at this time.

Northumberland Local Aggregate Assessment 2021

4.20 Consideration has been given to the contents of the Northumberland LAA 2021 which is along with County Durham is a major producer of aggregates and supplier into adjoining areas of the North East, specifically into Tyne and Wear.

4.21 Total sales of land won sand and gravel in Northumberland were 303,000 tonnes in 2021, rising from 276,000 tonnes in 2020 which was the lowest level of sales in the last ten years. The Northumberland LAA recognises at:

- Paragraph 6.6 that “It is clear that the decrease in sales in Northumberland is not representative of wider trends across the region which has seen overall sales increase virtually every year since 2012 (disregarding 2020 sales data).”
- Paragraph 6.7 that, “It seems unlikely therefore that the decrease in sales in Northumberland is a result of a decrease in demand. It is more likely that this reduction in sales can be attributed to a steady decrease in the number of operational sites, as several sites have exhausted their reserves during this period. Whilst there remains reserves of materials in Northumberland, roughly 50-60% of these exist within a site that has been inactive since 2015”.
- Paragraph 6.21 that, “The general pattern both regionally and nationally has been for sales of both sand and gravel to have increased from 2017-2021 with a fall in 2020 reflecting the exceptional circumstances of the pandemic. However, in Northumberland, sales of sand and gravel have been falling since 2017. One of

the reasons for this decrease is as a result of a reduced number of operational sites, with production from Hedgeley Quarry ceasing in the first quarter of 2018 followed by Haughton Strother Quarry in early 2021, having an impact on overall sales.

- Paragraph 6.22 of the Northumberland LAA indicates that, “As at 31 December 2021, 4.1 million tonnes of permitted reserves remained to be worked in Northumberland. However it is worth noting that 50-60% of these reserves exist in a site that has been inactive since 2015 with planning permission due to lapse in 2023.”
- Paragraph 6.23 of the Northumberland LAA also indicates that Ebchester (Broadoak) Quarry, “is one of three sand and gravel sites allocated in the Northumberland Local Plan. Currently, one of these sites has an active planning application which would add 5.8 million tonnes to the landbank. The remaining two allocations would provide 3.2 million tonnes of reserves but are yet to come forward with planning applications”.

4.22 On 1 November 2022, members at Northumberland Strategic Planning Committee subsequently resolved to grant planning permission subject to a legal agreement to the proposal (planning application reference 21/02505/CCMEIA) by Thompsons of Prudhoe for the extraction and processing of 5.8 million tonnes of sand and gravel at Annick Grange Haugh. It is understood that this site would be worked over a 25 year period and that approximately 200,000 to 300,000 tonnes of mineral would be extracted from the site each year. It is also understood that the operator of Ebchester Quarry are intending to submit a planning application to extend the duration of working at this Quarry and that the current permitted reserves will be available to contribute to the landbank beyond this date at a rate of approximately 150,000 tonnes of mineral each year.

4.23 It is considered that Annick Grange Haugh and Ebchester Quarry in conjunction with existing active sites in Northumberland should enable sand and gravel sales from Northumberland to increase substantially from 2021 level, thereby ensuring that Northumberland can maintain a steady and adequate supply and contribute to the demand across the North East. On this basis it is clear that through a combination of existing active permission and Local Plan allocations that that there are good prospects of sand and gravel supply being not only maintained but increased from Northumberland within several years. Accordingly, while it is expected that in the short term, sites within County Durham will continue to make a substantial contribution to regional sales of sand and gravel, that sales from Durham may begin to decrease as additional quarries commence or recommence production in Northumberland Accordingly, it is not considered necessary for this LAA to make additional provision to meet any shortfall in production from Northumberland.

4.24 In terms of land won crushed rock, sales in 2021 were 2,217,000 tonnes a ten year high. Paragraph 7.16 of the Northumberland LAA explains that “As at 31 December 2021, 76.085 million tonnes of permitted reserves remained to be worked in Northumberland. Based on the demand forecast and a recommended annual provision from Northumberland of 1,867,000 tonnes, this equates to a landbank of permitted reserves of 40.75 years at 31 December 2021 (based upon the annual

demand requirement in this LAA). Paragraph 7.17 of the Northumberland LAA explains that “Five sites are allocated for crushed rock extraction in the Northumberland Local Plan. One of these sites was granted planning permission in June 2022 which will introduce 2.7 million tonnes to permitted reserves. Two of the remaining sites are at the application stage whilst the remaining two have yet to come forward. In total, these four sites have the potential to add roughly 13 million tonnes to the landbank”.

4.25 On this basis it is clear that through a combination of existing permission and Local Plan allocations that that there are good overall prospects of crushed rock supply being maintained from Northumberland. Accordingly, it is not considered necessary for this LAA to make additional provision.

Tees Valley Local Aggregate Assessment 2018

4.26 The last Tees Valley LAA was published in April 2018 and covered the 2017 calendar year. An updated LAA for 2021 has been submitted to the North East Aggregates Working Party containing data for 2021 and this LAA has been drawn upon in preparing this section.

4.27 No sand and gravel was extracted from quarries in the Tees Valley in 2021. This is because there is no longer any permitted reserves. Beach extraction at North Gare ceased in 2012 and planning permission at Stockton Quarry expired in July 2015. Planning permission to extend the operations at Stockton Quarry had previously been sought. The draft updated LAA for the Tees Valley reports that in April 2017, Cemex submitted a Scoping Opinion request for the proposed extraction of 1.78 million tonnes of sand and gravel. However, there have been no further progress since, and it is understood that the applicant is awaiting the outcome of the testing/feasibility work. It also reports that a proposed new site for sand and gravel containing 4.6 million tonnes, located at High Conniscliffe in Darlington Borough, was put forward for consideration as a site allocation, when the Tees Valley Minerals and Waste DPDs were being prepared. It advises that Hanson still has an interest in the site, and there is a significant reserve of sand and gravel but no planning application has come forward for this site. It also advises that the possibility that a planning application and/or further representations for inclusion in future Tees Valley Minerals and Waste DPDs cannot be dismissed.

4.28 It is also understood that marine sand and gravel continues to be landed on wharfs on the River Tees. It is understood that nearly 431,000[6] tonnes was landed in 2021, approximately 291,000(see 5) tonnes was landed in 2020 and 355,000 tonnes was landed in 2019[7] . In 2019 this equated to 63.7% of all marine sand and gravel landed in the North East in 2019. Marine sand and gravel landed in the Tees Valley in 2021 is also supplemented by land won sand and gravel from North Yorkshire and County Durham. It is also understood that this pattern of supply has been the

[6] Data on landings of marine sand and gravel provided by The Crown Estate used as a proxy for sales data as publishing the actual sales figures provided to the annual survey would disclose commercially sensitive information.

7 Collation of the AM2019 Survey. Table 9i Sales of primary aggregates by MPA and principal destination sub-region in 2019: North East

business as usual position for many years. In 2019 231,000[8] tonnes of land won sand and gravel was imported into the Tees Valley. Reported consumption of sand and gravel in the Tees Valley in 2019 was 497,000[9] tonnes.

4.29 On this basis it is clear that with no land won sand and gravel sites or sales that the Tees Valley remains dependent on a combination of marine sand and gravel and imports from adjoining areas. Given that this has been the position for many years, it is not considered necessary for this LAA to make additional provision to compensate for a lack of land won production in the Tees Valley. However, if a successful planning application was submitted for one or both of the identified potential sand and gravel sites at Stockton Quarry or at High Conniscliffe (see paragraph 4.27) that the Tees Valley's dependence on surrounding Counties for land won sales would be reduced.

4.30 It is understood that no crushed rock was extracted or sold in 2021. For many years there has only been one crushed rock site within the Tees Valley (Hart Quarry in Hartlepool). However, it is understood that this quarry was not operational in 2021. The draft updated LAA for the Tees Valley estimated that 75,000 tonnes of crushed rock was extracted in 2020. Whilst the Tees Valley is a major centre of demand within the North East, with a reported consumption of 803,000[10] tonnes of crushed rock, for many years it has remained heavily on imports from other parts of the North East and North Yorkshire. This reliance was recognised by the Tees Valley LAA 2017.

4.31 Given the very limited scale of previous sales of crushed rock from Hart Quarry and the existing reliance on surrounding areas of the North East and North Yorkshire, accordingly, it is not considered necessary for this LAA to make additional provision to compensate for a lack of land won production in the Tees Valley.

North Yorkshire Local Aggregate Assessment 2021

4.33 Consideration has been given to crushed rock supply and sand and gravel supply from North Yorkshire which is a major producer of aggregates in the Yorkshire and Humber region and also supplies quantities of both crushed rock into the North East region and in particularly the Tees Valley. The latest North Yorkshire LAA (sixth review) was ratified in December 2022 and included information up to 2020. Consideration has also been given to the North Yorkshire Minerals and Waste Plan Joint Plan was adopted by North Yorkshire County Council in February 2022.

4.34 It is understood that 1.5 million tonnes of sand and gravel and 3.2 million tonnes of crushed rock were sold from quarries in North Yorkshire outside of the Yorkshire Dales National Park in 2020, with a further 2 million tonnes of crushed rock sold from quarries in the Yorkshire Dales National Park in 2020. It is understood that sales in 2020 reflected a slight increase from 2019, when 1.4 million tonnes of sand and gravel and 3 million tonnes of crushed rock were sold from North Yorkshire and

8 Collation of the AM2019 Survey. Table 10 Imports of primary aggregates by sub-region in 2019.
9 Collation of the AM2019 Survey. Table 11 Consumption of primary aggregates by sub-region in 2019.
10 Collation of the AM2019 Survey. Table 11 Consumption of primary aggregates by sub-region in 2019.

a slight fall in crushed rock sales from the Yorkshire Dales National Park with 2.37 tonnes being sold in 2019. In total in 2019, 212,000 tonnes of land won sand and gravel and 381,000 tonnes of crushed rock were imported into the North East from North Yorkshire[11]. Correspondingly, in 2019 337,000 tonnes of sand and gravel including 30,000 tonnes of marine sand and gravel and 184,000 of crushed rock were imported into North Yorkshire from the North East[12].

4.35 The sixth review reported that permitted reserves of sand and gravel were 24.8 million tonnes (a 15.5 year landbank) (including 14 million tonnes in a northwards distribution area), that permitted reserves of crushed rock were 162.14 million tonnes in total including 78.8 million tonnes in North Yorkshire outside of both National Parks (equivalent to a 26.2 year landbank) and 83.34 million tonnes in the Yorkshire Dales National Park (equivalent to a 26.9 year landbank). In terms of break down by resource type, thee crushed rock permitted reserves consisted of 138.22 million tonnes of carboniferous limestone (including 76.12 million tonnes in the Yorkshire Dales National Park), 9.8 million tonnes of magnesian limestone and 6.9 million tonnes of Jurassic limestone. The sixth review also reported that substantial reserves of Carboniferous Limestone are thought to exist in dormant sites in the Leyburn area in Richmondshire District which adjoins County Durham (estimated to be in excess of 30 million tonnes) and working schemes are currently being brought forward by operators in this area to enable access to these.

4.36 Amongst other matters the LAA advised that:

- Aggregates supplied from the sub-region are of significance at a regional level and beyond.
- Although there has been a decline in production over the past few years, in response to economic conditions, the strategic significance of aggregate supply from the sub-region is likely to remain high and may increase, particularly for concreting sand and gravel.
- The sub-region has high overall reserves of crushed rock and sand and gravel for the period to 2030, although a potential shortfall for building sand has been identified. There is potential for shortfall in supply of Magnesian Limestone in particular in the midterm in the absence of release of further reserves.

4.37 Through the provisions of the North Yorkshire Minerals and Waste Plan Joint Plan, the Joint Plan authorities have sought to make provision for the continued supply of both crushed rock and sand and gravel including provision for both a northwards facing and southwards facing sand and gravel landbank and allocations to maintain a steady and adequate supply over the plan period to 2030 and maintain respective landbank of at least 7 years for sand and gravel and at least 10 years for crushed rock throughout the Plan period.

11 Collation of the AM2019 Survey. Table 5i Consumption of primary aggregates by region in 2019: North East.
12 Collation of the AM2019 Survey. Table 5h Consumption of primary aggregates by region in 2019: Yorkshire and the Humber.

4.38 Consideration was also given to crushed rock supply and sand and gravel supply from Cumbria taking into account information within the Cumbria and the Lake District National Park Joint Local Aggregate Assessment (CLDNPLAA) and the National Aggregates Survey 2019.

4.39 Information within the National Aggregates Survey 2019 does not show a strong supply relationship between the North East and the North West regions as a whole. It is considered that this is a result of geography with the North Pennines lying between the North West and North East and the distance between quarries and centres of demand for aggregates within both the North West and North East. In 2019 162,000 tonnes of aggregate (consisting of 80,000 tonnes of land won sand and gravel, 44,000 tonnes of limestone/dolomite and 38,000 tonnes of igneous rock) were imported into the North East from the North West. Similarly, in 2019 only 93,000 tonnes of aggregate (consisting of 9,000 tonnes of sand and gravel, 56,000 tonnes of limestone/dolomite and 28,000 tonnes of igneous rock) were imported into the North West from the North East. No sub-regional information is available detailing either origin or destination within either the North East or North West. The 93,000 tonnes of aggregates imported into the North West from the North East in 2019 should be seen in the context of overall consumption of aggregates in the North West in 2019 which was 14,796,000 tonnes. Similarly, the 162,000 of aggregates imported into the North East from Cumbria from the North West in 2019 should be seen in the context of overall aggregate consumption in the North East in 2019 which was 7,499,000 tonnes.

4.40 The CLDNPLAA advises that current permitted reserves of all crushed rock for aggregate use (114.28 million tonnes) are more than sufficient to maintain the required landbank of at least 10 years throughout the Plan periods (Cumbria and Lake District Local Plan's) and provide a landbank of 40.8 years. It advises that current permitted reserves of high specification (HSA) and very high specification aggregates (VHSA) for use as roadstone are 15.62 million tonnes which is sufficient to maintain the required minimum 10 year landbank throughout the Plan periods and provide a landbank of 33.2 years. It advises that there no concerns at this stage regarding supply and demand of crushed rock.

4.40 In terms of sand and gravel the CLDNPLAA advises that current permitted reserves of land-won sand and gravel for aggregate use (5.63 million tonnes) are not sufficient to maintain the required landbank of at least 7 years throughout the Plan periods (2030 and 2035). The CLDNPLAA provision will continue to be based on 3-year average sales figures (currently 0.79Mt) giving a landbank of 7.12 years which would run out in early 2029. In order to ensure permitted reserves remain above the "at least" 7 years landbank required by the NPPF, new reserves need to come on stream no later than 2022. It advises that an additional 7.01 million tonnes of sand and gravel reserve is required to maintain a landbank of a least 7 years throughout the Cumbria Minerals and Waste Local Plan period (to 2030) based on 3-year average sales figures. It advises that site allocations have been made in the Cumbria

Minerals and Waste Local Plan that should provide sufficient reserve to maintain the minimum landbank required for sand and gravel, however there is no guarantee that applications will be forthcoming at all of these sites. The CLDNPLAA also provides an update upon current scoping opinions and planning applications at November 2022 and the potential for marine-dredged sand and gravel to make a greater contribution. It reports that Crown Estate has confirmed there is sufficient vessel capacity and licenced material in the region to re-establish supply if market conditions provide sufficient economic demand.

4.41 Given the evidence within the National Aggregates Survey 2019 detailing the lack of a strong supply relationship and the limited flows of aggregates between the North West and North East as a whole, the permitted reserve position for crushed rock and the site allocations within the Cumbria Minerals and Waste Local Plan it is not considered necessary for this LAA to consider provision within Cumbria further.

Other Local Aggregate Assessments

4.42 Aggregates are bulky and heavy commodity, the majority of sales of aggregates from County Durham are consumed within County Durham, adjoining sub-regions within the North East and in the Yorkshire and Humber. Key supply relationships (sales of aggregates and aggregate minerals by region in 2019) are reported upon within tables 4a to 4k of the National Aggregates Survey 2019 and provide the basis for informing the Council upon which Local Aggregate Assessments it is necessary to monitor. The principal Local Aggregate Assessments that the Council monitors are set out above. In addition the Council also considers and responds to consultations upon Local Aggregate Assessments prepared by Council's which do not adjoin County Durham which has included Council's in the North West including Lancashire and Cheshire.

5.Secondary and recycled aggregates

5.1 Recycled aggregates play a role in the total supply of aggregates in County Durham with various types of recycled materials suitable for aggregate use produced. The use of these types of aggregates has both environmental and economic benefits, driving the more sustainable use of resources by maximising the re-use of materials, minimising new extraction of mineral and diverting waste from landfill. The last estimate of the national construction and demolition (C&D) inert waste recovery rate, was made in 2014, as confirmed by Defra's "UK Statistics on Waste" published in February 2018. The 2014 study estimated recovery rates of 91.4% in England and 89.9% in the UK as a whole. More recent information provided by the Mineral Products Association at a national level estimates that recycled and secondary materials account for 28% of the aggregates market[13].

5.2 Recycled aggregates are derived from construction, demolition and excavation work that have been reprocessed to provide materials or a product suitable for aggregate uses. They include materials such as stone, concrete, brick or asphalt for re-use. A significant amount of recycled aggregates are produced on development and construction sites involving mobile plant, whilst others are processed at dedicated freestanding sites or facilities located within existing minerals and waste sites. Within County Durham recycled aggregates are produced principally from construction and demolition projects whilst materials derived from spent railway ballast and recovered asphalt planning also make a contribution to supply.

Sales of recycled aggregates

5.4 Information on the arisings of secondary and recycled aggregates is not as comprehensive or robust as the information available on the production of primary aggregates. However it is possible to estimate the sales of recycled aggregates across County Durham using the data provided by the Government's Waste Data Interrogator. This method 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'. From this total, any waste either removed from the site or whose fate is not recorded as 'recovery' is not subtracted to avoid double-counting.

5.5 Table 5.1 shows the sales of recycled aggregates in the LAA area between 2019 and 2021; due to the data available it is not possible to calculate these figures for years prior to this period. There were no sales of secondary aggregates recorded between 2019 and 2021.

5.6 Overall sales of recycled aggregates were 111,000 tonnes in County Durham in 2021. This represents a slight fall since 2020, but almost a doubling since 2019. This information should be treated with a degree of a caution, as this method does not take into account mobile crushers and screens which are known to make an

[13] Mineral Products Association (2020). Profile of the UK Mineral Products Industry: 2020 Edition. Available at: https://www.mineralproducts.org/Facts-and-Figures/Profile-of-the-UK-Mineral-Products-Industry.aspx

important contribution to overall supply. However the data available does suggest that recycled aggregates will continue to make a worthwhile contribution to the supply of aggregates in the LAA area and the general trend of sales is upwards over the last three years.

Table 5.1 Sales of recycled aggregates in County Durham, 2019-2021 (thousand tonnes)

County	2021	2020	2019
County Durham	111.0	135.0	67.0

Source: Waste Data Interrogator.

6 Sand and gravel

6.1 This section sets out known information about sales of sand and gravel in the LAA area. It also looks at issues around imports and exports of material.

6.2 After consideration of these issues, this section also will forecast future demand to be planned for. Finally, the implications of this level of demand will be analysed with regard to current permitted reserves.

Land-won sand and gravel

6.3 Information on sales of land won sand and gravel for aggregate use from quarries in County Durham is provided below in Table 6.1. Total sales were 553,000[14] tonnes; this represent a rise on sales from 2020 however as stated in Chapter 4, figures from 2020 are likely to have been heavily influenced by the Coronavirus pandemic and are not representative of overall trends. Sales of sand and gravel from County Durham in 2021 were at their highest in the last ten years.

Table 6.1 Sales of land won sand and gravel from County Durham, 2012 to 2021 (thousand tonnes)

Year	County Durham	North East Total	County Durham sales as percentage of North East total
2012	199	713	27.91%
2013	218	716	30.45%
2014	276	873	31.62%
2015	256	917	27.92%
2016	322	972	33.13%
2017	330	955	34.55%
2018	446	1047	42.60%
2019	537*	1187	45.24%
2020	419*	994	42.15%
2021	553*	1135	48.72%
Ten year sales average 2012-2021	355.6	950.9	37.40%
Three year sales average 2018-2021 (excluding 2020)	512	1105.5	46.31%

Notes: *Sales figure differs from North East Aggregates Working Party Annual Monitoring Report figure for 2019, 2020 and 2021 due to adjustment to reflect the limestone fines component of sand sales at one quarry in County Durham. Note figures for 2020 have been revised from those in the previous LAA.

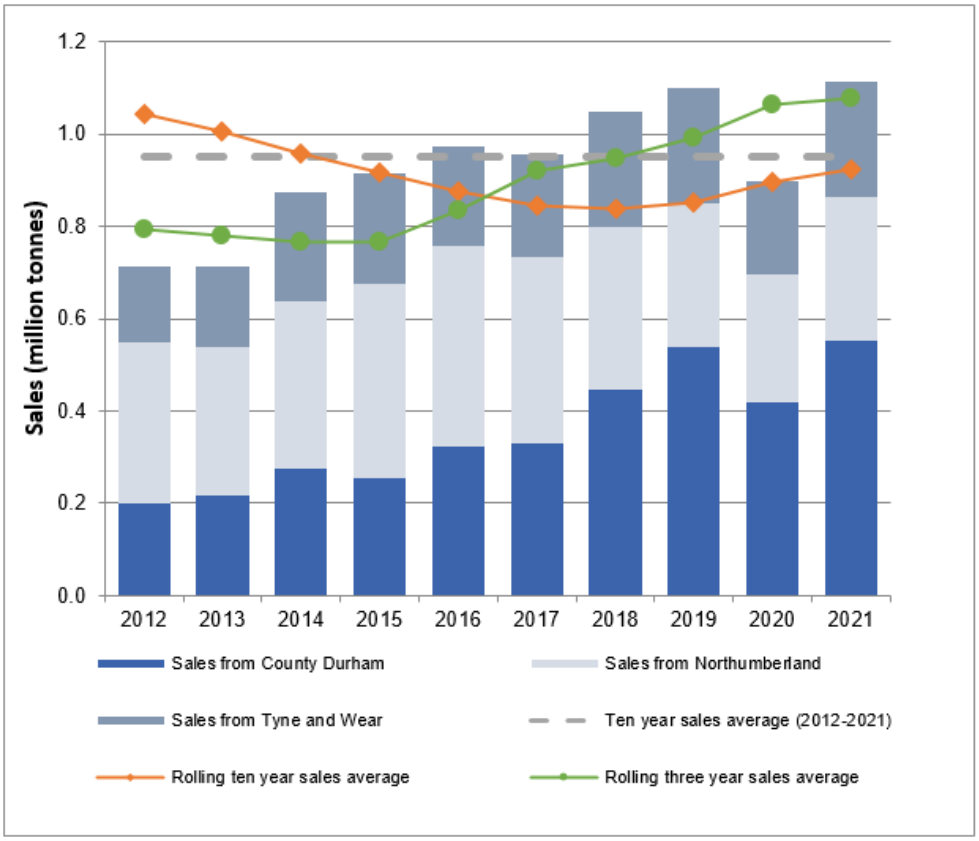
6.4 Figure 2 shows trends in the rolling averages for both ten years of sales and three years of sales. The ten years sales average fell steadily between 2012 and 2016, reflecting the period of depressed sales as a result of the economic downturn post 2009. Since 2017 this figure has risen steadily. In contrast, the three year sales average has risen steadily since 2014 and has been consistently higher than the ten year sales average for the last six years.

[14] * This sales figure differs from that within the North East Aggregates Working Annual Report. A downward adjustment has been made to take into account limestone fines which the Council understands is included in sand sales at one quarry in County Durham.

6.5 A number of trends are visible when looking at the data. Sales in County Durham have risen significantly since 2018. This is as a result of substantive mineral working commencing at Low Harperley in 2018[15] and a significant increase in sales from Old Quarrington and Cold Knuckle Quarry[16] in 2018, thereby doubling the number of sites which provided sales.

6.6 Looking at the data at the regional level, it is clear that the increase in sales from County Durham is representative of a wider trend across the North East region which has seen overall sales increase virtually every year since 2012 (disregarding 2020 sales data). The level of overall percentage of sales provided by County Durham has risen significantly since 2012; rising from 28% in 2012 to nearly 49% of all land won sales in the North East in 2021. The rise in sales from County Durham has also coincided with a fall in sales from Northumberland as discussed in Chapter 4. Unless demand falls as a result of a change in economic conditions, the Council's expectation is that sand and gravel sales from County Durham will continue at levels similar to that in recent years, at least in the short term, but sales may then fall as permitted reserves at some sites become exhausted and as other sources of supply within the North East commence or recommence working.

Figure 2 Comparison of land won sand and gravel sales and Ten and Three Year Sales averages



[15] Working commenced at Low Harperley in 2017. In 2017 only a very small quantity of sand and gravel was worked and sold from this quarry.

[16] Prior to 2016, Old Quarrington and Cold Knuckle Quarry had been inactive Sales from the quarry recommenced in 2016,with sales in 2018 increasing by nearly 400% from 2016 levels.

Marine sand and gravel

6.7 There are currently no areas licenced for the dredging of marine aggregates off the coast of North East England, with the closest area being the Humber dredging areas off the coast of Yorkshire and Lincolnshire. During 2021 3.5 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 6.9 million tonnes in the Humber region. The Crown Estate's Marine Aggregates Capacity and Portfolio document 2021, explains that there were 46.17 million tonnes of primary marine aggregate reserves in the Humber dredging region which would provide a reserve life of 21.9 years. No marine dredged sand and gravel is landed in County Durham. Within the North East there are a number of wharves where marine dredged sand and gravel is landed and sold for aggregate uses. This includes the Port of Blyth in Northumberland, wharves on the River Tyne and the Port of Sunderland and wharves on the River Tees.

6.8 The sales figures shown in Table 6.2 are for North East England and include sales from all wharves in the North East. Table 6.2 shows that sales have risen significantly in 2021. This is believed to be due to a large rise in sales from wharves in the Tees Valley. Information from the 2019 Aggregates Survey indicated that 77,000 of landed marine dredged sand and gravel was imported into County Durham. Comparable information from the 2014 Aggregates Survey indicated that 248,000 tonnes was imported in 2014.

Table 6.2 Sales of marine sand and gravel from wharves in North East England, 2012 to 2021 (thousand tonnes)

Year	Sales
2012	491
2013	343
2014	536
2015	595
2016	499
2017	535
2018	525
2019	533
2020	611
2021	798
Ten-year sales average 2012 to 2021	546.6
Three-year sales average 2018 to 2021 (excluding 2020)	618.7

Imports and exports

6.9 The most up-to-date information on imports and exports of primary aggregate minerals is from the 2019 national aggregate minerals survey undertaken by British Geological Survey on behalf of the Department of Communities and Local Government and the Welsh Government. Table 6.3 shows the import and export data for land won and marine sand and gravel combined for the entire North East. This highlights that in 2019, the region exported slightly more sand and gravel than was imported. As a percentage of overall consumption, the amount imported was 17%. Given the low proportion of overall consumption made up by imported sand and gravel, it is not thought that this demonstrates any issues with supply in the region.

Table 6.3 Imports, exports and consumption of sand and gravel in North East England 2019 (thousand tonnes)

Region	Imports	Exports	Total consumption
North East	292	384	1,729

Source: Table 3 Summary of exports and imports of primary aggregates in 2019. Table 11 Consumption of primary aggregates by sub-region in 2019. 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.

6.10 Table 6.4 shows consumption for County Durham. This shows that the county is a net exporter of sand and gravel material. Table 6.5 explores some of the inter-regional movements in more detail.

Table 6.4 Sales information for sand and gravel for County Durham (thousand tonnes)

North East Sub-region	Sales	Imports	Exports	Total consumption
County Durham	625*	247	485	388

Source: Table 9i Sales of primary aggregates by MPA and principal destination sub-region in 2019: North East. Table 10 Imports of primary aggregates by sub-region in 2019. Table 11 Consumption of primary aggregates by sub-region in 2019 - Collation of the results of the 2019 Aggregate Minerals Survey for England and Wales. Note * The sales figure in Table 6.4 differs from that in Table 6.1 as 2019 sales have been amended to reflect the limestone fines component of sand sales at one quarry in County Durham.

Exports

6.11 Table 6.5 shows the sales of sand and gravel from quarries in County Durham and the principal destinations of these sales. A significant proportion of sand and gravel sales were outside County Durham and the North East.

Table 6.5 Sales of sand and gravel from County Durham in 2019 and principal destination (thousand tonnes)

Destination	Land won sand and gravel	Percentage
County Durham	141	22%
North East	246	39%
Elsewhere	239	38%
Total	625*	100%

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. Note * The sales figure in Table 6.5 differs from that in Table 6.1 as 2019 sales have been amended to reflect the limestone fines component of sand sales at one quarry in County Durham.

Imports

6.12 Consumption of sand and gravel for aggregate uses for County Durham in 2019 is shown in Table 6.6. The table categorises the percentage of overall consumption that is received from source MPAs. A significant quantity of sand and gravel consumed within County Durham was sourced from quarries in County Durham but sand and gravel aggregate was also consumed from adjoining sub-regions and regions, showing complex flows which are a product of the aggregate

supply and construction industry. Given the extent of sales previously shown these imports were not due to supply constraints in County Durham but a function of the market.

Table 6.6 Consumption of sand and gravel for aggregate use in 2019 identifying for County Durham the principal supplying MPAs.

Source MPA	County Durham
Durham County Council	30-40%
Northumberland County Council	1-10%
South Tyneside Council	10-20%
Sunderland City Council	10-20%
North Yorkshire County Council	20-30%
Cumbria County Council	<1%
Staffordshire County Council	<1%
Total consumption (thousand tonnes)	388,000

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

6.13 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 local situation 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 is expected to be broadly consistent with past rates across the region, as discussed in Chapter 4;
- Demand for aggregates from large infrastructure projects will be broadly similar to previous projects, or at least not significantly higher as discussed in Chapter 4;
- Sales figures from 2020 are not representative due to the impact of the pandemic as discussed in Chapter 4 and should not be included in calculation of sales averages;
- Recycled aggregates will continue to make a contribution to overall supply as discussed in Chapter 5;
- Marine sand and gravel will also continue to make a similar contribution to overall supply as in previous years, as discussed in Chapter 6; and
- Levels of imports and exports of sand and gravel will remain broadly consistent with data recorded in 2019.

6.14 Table 6.1 provides a summary of sales of sand and gravel within County Durham for the period 2012 to 2021 respectively. The tables also provide 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 (2018 to 2021, excluding 2020) - 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.

6.15 As discussed before, sales in 2020 will have been affected by the impact of the pandemic both through restrictions affecting production at sites (supply) and restrictions affecting constructions sites using aggregates (demand). Sales in 2020 were markedly lower than both 2019 and 2021. 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. It is still considered appropriate to include the year 2020 in calculations of the 10-year sales average as this covers a longer period and therefore conditions which are unrepresentative make 2020 sales less of an impact to this calculation.

6.16 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 includes a period of depressed sales (particularly 2012-2014) as a result of the economic downturn that occurred. In comparison, the three-year average was considered to better reflect more current trends in the economy.

6.17 Table 6.7 sets out the recommended annual demand requirement of sand and gravel. These figures will be revisited each year through the preparation 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.

Table 6.7 Proposed annual demand requirement for land-won sand and gravel based upon the three year sales average (tonnes)

North East Sub-Region	Annual Demand Requirement
County Durham	512,000 tonnes

Reserves/Landbanks

6.18 The general pattern both regionally and nationally has been for sales of both sand and gravel to have increased from 2017-2021 with a fall in 2020 reflecting the exceptional circumstances of the pandemic.

6.19 As at 31 December 2021, 4.636 million tonnes of permitted reserves remained to be worked in County Durham. These permitted reserves are contained in five sites, four of which were active in 2021. All four active sites are expected to remain active over the short term, although all of the sites may cease working due to an exhaustion of permitted reserves prior to or around circa 2030 to 2032.

6.20 Based on the demand forecast and a recommended annual provision from County Durham of 512,000 tonnes, this equates to a landbank of permitted reserves of 9 years at 31 December 2021 (based upon the annual demand requirement in this LAA).

6.21 Table 6.8 below provides an overview of sand and gravel permitted reserves across the North East over the ten year LAA reporting period. At the end of 2021 County Durham's sand and gravel quarry's contained approximately 33% of all North East sand and gravel permitted reserves. As set out above in Table 6.1 County Durham's sand and gravel quarry's accounted for nearly 49% of all land won sales in the North East in 2021 and as such shows the current reliance of the North East on sand and gravel sales from County Durham quarry's.

Table 6.8 Sand Gravel Permitted Reserves in County Durham, Northumberland, Tyne & Wear and the Tees Valley and the North East 2012 to 2021 (thousand tonnes)

Area	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
County Durham	6,679	8,924	8,651	8,354	7,610	7,113	6,474	5,600	5,247	4,636
Northumberland	8,331	7,728	7,414	7,337	6,045	5,410	5,104	5,585	4,594	4,107
Tyne & Wear and Tees Valley (combined)	2,541	3,568	2,133	7,880	7,660	7,433	7,174	5,645	5,420	5,420
North East England	17,551	20,220	18,198	23,571	21,315	19,956	18,752	16,830	15,261	14,163

Source: North East England Aggregates Working Party Annual Report 2021 Published [Draft – November 2022].

6.22 A quantitative assessment of the balance between the quantum of permitted reserves and the calculated demand is set out below. Two forecasting periods are provided one from 2022 to 2035 to align with the County Durham Plan period with runs to 2035 and the standard 16 year forecasting period which has also been used previously, which now runs to 2037.

Table 6.9 Assessment of the balance between supply and demand for sand and gravel for aggregate use from County Durham

Supply and demand information	County Durham Plan Forecast period 2022 to 2035 (14 years)	Standard 16 Year Forecast period 2022 to 2037 (16 years)
Permitted reserves at 31 December 2021	4,636,000	4,636,000
Ten year sales average 2012 to 2021	357,500	357,500
Three year sales average 2018 to 2021 (excluding 2020)	512,000	512,000
Annual demand Requirement in LAA	512,000	512,000
Demand forecast	7,168,000	8,192,000
Landbank based on annual demand calculated in LAA	9 years	9 years
Balance between quantum of permitted reserves and demand	-2,532,000	-3,556,000

6.23 In recent years the Council has observed a fall in reported permitted reserves and consequent fall in the County's sand and gravel landbank which is greater than that could have been reasonably anticipated from sales. The fall in permitted reserves has been greater than recorded sales due to the continuing downward revision of permitted reserves in specific sites by mineral operators (due to geological reasons). The fall in the length of the landbank period has been because of this fall in permitted reserves combined with a rising annual demand requirement

as a result of increased sales. This material change in permitted reserves in combination with the increased annual demand requirement now means that in quantitative terms the prospects for maintaining supply over the period to 2035 and 2037 has changed from very good since 2016 to only moderate in 2022. As indicated by the balance between supply and demand in the above table, the Council will not be able to maintain a minimum seven-year landbank after 2024, which is a key indicator that further provision is now necessary to be planned for.

6.24 Both the permitted reserve and landbank figures indicate that County Durham will have a shortfall in sand and gravel supply over the period to both 2035 and to 2037. However, through work to prepare the Council's emerging Minerals and Waste Policies and Allocations Document which has reached its Publication Draft stage of consultation in November 2022, the Council is seeking to allocate two sites to enable further sand working at Thrislington West Quarry (5,800,000 tonnes to be worked at an estimated rate of between 200,000 and 300,000 tonnes per annum) and an extension to Crime Rigg Quarry to enable the a northern extension (910,000 tonnes to be worked at an estimated rate of 40,000 tonnes per annum). Together both allocated sites, should the allocations be agreed by the Local Plan Inspector and subsequently granted planning permission, will in quantitative terms address the forecast deficit in supply identified in Table 6.9 and make major contribution to maintaining a seven year landbank at 2035.

6.25 It is also important to understand whether the sites in County Durham have the capacity to meet the annual demand forecast over this period and whether there are site specific issues that could influence the ability of these to contribute to sand and gravel supply. Durham County Council has sought to understand the extent of permitted reserves within sites and the potential capacity of sites to supply into the future. Due to site specific information not being available from the North East Aggregates Working Party, this has been achieved through the Council's own annual survey of mineral operators and through the consideration of information submitted as part of planning applications. The results of this work are set out in Table 6.10 below. This work gives an indication that a significant proportion of the permitted sand and gravel reserves in County Durham are not simply found in a limited number of sites and that sites are distributed in three broad areas (upon the magnesian limestone escarpment, east of Wolsingham in Weardale and south of West Auckland in Teasdale), all of which are well related to the market in the North East.

6.26 Table 6.10 also includes the Council's assessment of maximum productive capacity which has been prepared taking into account all available information including that found within past planning applications, operator monitoring reports and operator submissions to the Council's own monitoring survey. Previous LAAs have advised that County Durham's existing sand and gravel sites are likely to have a maximum productive capacity which is in excess of both recent sales and historic sales levels. This fact has been confirmed through an increase in sales over the last four years. It should be noted that the figures in the table below are estimates and that individual operators will, within the constraints afforded by their existing planning permissions, seek to increase or decrease supply in accordance with market demand.

Table 6.10 Distribution of permitted reserves of sand and gravel in 2021 and DCC estimates of supply/production capacity

Quarry	Estimate of Permitted reserves at 31 December 2021 (tonnes)	Estimate of maximum productive capacity (tonnes per annum)
Thrislington Quarry West (Active)	949,000(1)	200,000 to 300,000. Operator has also proposed an allocation for 5.8 million tonnes through the emerging County Durham Minerals and Waste Policies and Allocations Document which has been identified for allocation in the Publication Draft.
Crime Rigg Quarry (Active)	336,000(1)	30,000 to 40,000. Operator has also proposed an allocation for 910,000 tonnes through the emerging County Durham Minerals and Waste Policies and Allocations Document which has been identified for allocation in the Publication Draft.
Old Quarrington and Cold Knuckles Quarry (Active)	985,000(1)	140,000 to 200,000
Hummerbeck (Inactive)	670,000(2)	84,000
Low Harperley (Active)	1,696,000(1)	160,000

Notes 1 Figures provided in response to DCCs annual survey of mineral operators for 2021. 2 Planning Committee Report.

6.27 As detailed below, looking at supply at a site-specific level, sand and gravel working at three of the five sand and gravel sites in the County are due to end prior to 2035, with the remaining two sites having permission to 2042:

- Crime Rigg Quarry – Existing permitted reserves at this quarry will not be exhausted by the end date for extraction specified by the existing planning permission (31 December 2022). However, the County Durham Plan is permissive towards extensions of time where permitted reserves remain to be worked when planning permission expires[17]. If planning permission for the extraction of permitted reserves was to be extended, taking into account existing permitted reserves and both recent and historic sales we forecast that this site could continue extraction until 2030. As stated above the Council is seeking to allocate land to enable a northern extension (910,000 tonnes to be worked at an estimated rate of 40,000 tonnes per annum).

[17] . A planning application was also submitted on 18 November 2022 to permit an extension of time for mineral extraction until 2030 with restoration to be completed by 2032. This planning application is pending consideration.

- Thrislington Quarry West – Existing permitted reserves at this quarry will be exhausted prior to the end date of the existing planning permission (15 January 2030). Taking Into account information from the operator, remaining permitted reserves and both recent and historic sales, we now forecast that this site is likely to be exhausted by 2025. As stated above the Council is seeking to allocate land to enable further sand working at Thrislington West Quarry (5,800,000 tonnes to be worked at an estimated rate of between 200,000 and 300,000 tonnes per annum. Note up to 100,000 tonnes of limestone fines are also added to the sand to produce a Midas product. Building/soft sand, asphalt and fill sand is also produced.
- Low Harperley Quarry - Should extraction continue in accordance with this site's planning permission, we forecast that this site could continue extraction until approximately 2032 at a rate of up to 160,000 tonnes per annum.
- Old Quarrington and Cold Knuckles Quarry – For many year sales of sand from this quarry have been limited, with no sales in a number of years, and as a result the Council expected permitted reserves at this quarry to remain available throughout the plan period to 2035. However, since 2018 the Council understands that sales have increased substantially and as a result permitted reserves have started to also fall significantly. The operator of the quarry now expects to work through the remaining permitted reserves at a rate of up to 200,000 tonnes per annum. They have advised that sales from the quarry has increased steadily since its reopening from an initial forecast 100,000 tonnes per year, and that they consider that permitted reserves of sand will be exhausted by 2027. Accordingly, given this information the Council recognises that without further permitted reserves being made available at this quarry, it will not be able to contribute to a steady and adequate supply of sand beyond the short term.
- Hummerbeck - On the basis that this permission remains inactive and has done so since new conditions were issued in 2011, unless circumstances change it is considered that the working of this permission cannot be relied upon to occur. However, should working commence in line with the 2011 planning permission, then the 670,000 tonnes of permitted reserves at this permission could be worked over an 8 year period at a rate of approximately 83,750 tonnes per annum.

Forecast Scale of Future Provision

6.28 In terms of the overall scale of additional provision that is required to be made, based on the current Annual Demand Requirement set out in this LAA and in order to maintain a seven year landbank at 2035 it is recommended that provision is made to enable a further 6,786,000 tonnes of sand and gravel to be extracted over the period to 2035[18 & 19]. Should planning permission be granted to the allocations within the Council's emerging Minerals and Waste Policies and Allocations Document and in order to prevent sales being restricted to just two sites following the

[18] Over the standard 16 year LAA forecasting period 2022 to 2037 the forecast requirement is calculated as 4,226,000 tonnes. This is based on the annual demand requirement set out in this LAA but does not take into account the maintenance of a seven year landbank at 2037 as it is not necessary to do so.

[19] This figure includes the balance between supply and demand (2,532,000 tonnes), sufficient reserves to maintain a seven year landbank at 2035 (3,584,000 tonnes) and discounting the existing permitted reserves at Hummerbeck (670,000 tonnes).

exhaustion of existing permitted reserves at Old Quarrington and Cold Knuckle Quarry and Low Harperley Quarry, it is recognised that further permissions will be required to reinforce supply towards the end of the plan period. This will be necessary to ensure a steady and adequate supply of sand and gravel and to maintain productive capacity.

Wider Supply Considerations

6.29 As a rural County located between both Tyne and Wear to the north and the Tees Valley to the south it is recognised that County Durham has traditionally had a role in supplying sand and gravel into areas outside of County Durham where the resources are less abundant and where there is significant demand. Based upon recent sales and individual site's productive capacities and remaining permitted reserves, it is recognised that in coming years, County Durham's sand and gravel quarries will make a significant contribution to the supply of land won sand and gravel. However, if this were to continue to occur, this would lead to a more rapid depletion of permitted reserves within County Durham, which may not be easily replaced in the longer term. As discussed in section 4 beyond the short term it is expected that sales from Durham should begin to decrease as additional quarries commence or recommence production in Northumberland. In relation to the Tees Valley, it is recognised that if a successful planning application was submitted for one or both of the potential sites within the Tees Valley that the Tees Valley's dependence on surrounding Counties for land won sales would be reduced.

6.30 In order to ensure a steady and adequate supply of gravel from the entire North East Region as a whole, it is considered that the Council should seek to ensure that adjoining sub-regions within the North East seek continue to safeguard land won sand and gravel. In addition it is also considered that the Council should seek to ensure that adjoining sub-regions within the North East also continue to safeguard existing active marine wharfs which are important for the landing of marine dredged sand and gravel which supplements land won sources of supply.

6.31 Where necessary Durham County Council also considers emerging development plans and Local Aggregate Assessments prepared by Council's outside of the North East. This is considered to be particularly important in relation to North Yorkshire County Council, due to the supply relationships with one another and with the Tees Valley. It is recommended that the Council should continue to liaise with other Council's outside of the North East where necessary to ensure that surrounding regions continue to seek to make sufficient provision through the review of their own development plans and maintain established supply relationships.

7 Crushed Rock

7.1 This section sets out known information about sales and permitted reserves of crushed rock in County Durham. It also looks at issues around imports and exports of material.

7.2 After consideration of these issues, this section also will forecast future demand to be planned for. Finally, the implications of this level of demand will be analysed with regard to current permitted reserves.

Land-won crushed rock

7.3 Information on sales of land won crushed rock for aggregate use from quarries in County Durham is provided below in Table 7.1. Sales figures over the ten year period from 2012 to 2021 are provided. Total sales in 2021 were 3.220 million tonnes, which were the third highest in the last ten years and comparable with 2019 sales. Although not uniform, sales have generally been rising steadily since 2011.

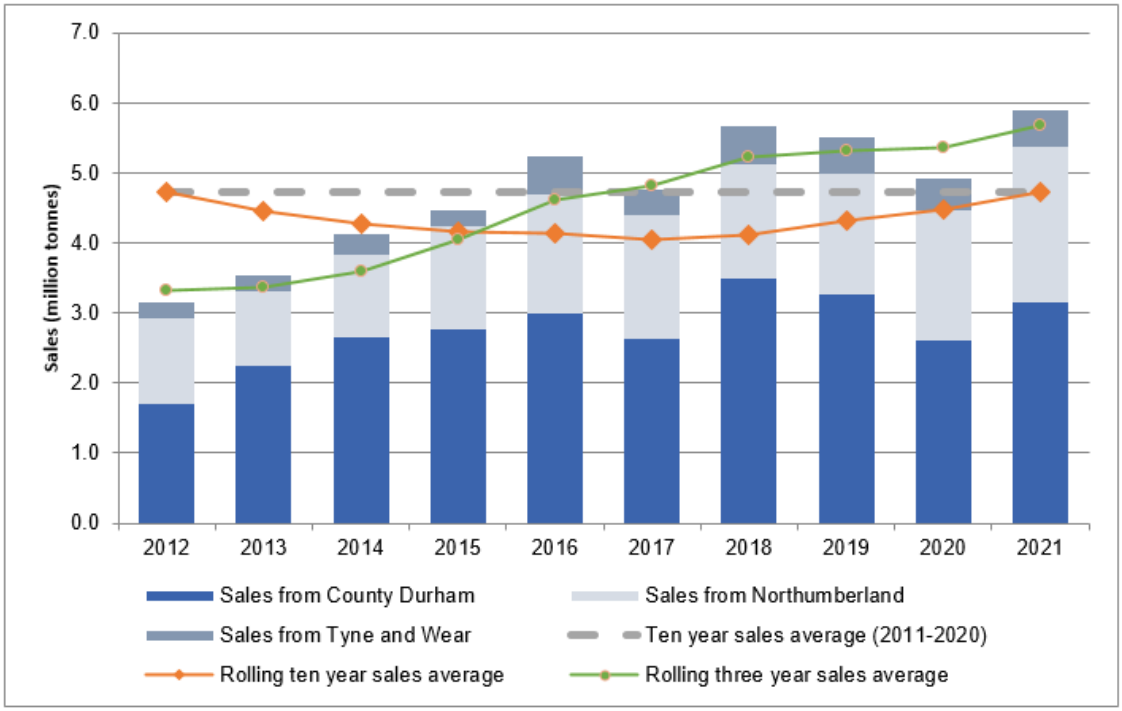
Table 7.1 Sales of Crushed Rock 2012 to 2021 (thousand tonnes)

Year	County Durham	North East Total	County Durham Sales as percentage of North East Sales
2012	1,696	3,181	53.3%
2013	2,245	3,569	62.9%
2014	2,654	4,162	63.8%
2015	2,770	4,533	61.1%
2016	2,990	5,356	55.8%
2017	2,636	4,808	61.2%
2018	3,484	5,735	60.7%
2019	3,256*	5,468	59.6%
2020	2,591*	4,949	52.3%
2021	3,220*	5,888	58.1%
Ten year sales average (2012 to 2021)	2,574.2	4,764.9	57.7%
Three year sales average 2018-2021 (excluding 2020)	3,320	5,435.1	60.9%

7.4 In order to examine wider trends, Figure 3 shows trends in the rolling averages for both ten years of sales and three years of sales from County Durham as well as Northumberland and Tyne and Wear. For these sub-regions of the North East the ten years sales average fell steadily between 2012 and 2017, reflecting the

period of depressed sales as a result of the economic downturn post 2009. Since 2017 this figure has risen steadily. In contrast, the three year sales average has risen steadily since 2012 and has been consistently higher than the ten year sales average for the last six years.

Figure 3: Comparison of land won crushed rock sales from Northumberland, County Durham and Tyne and Wear and the sales averages



Imports and exports

7.5 No crushed rock for aggregate uses has been landed in County Durham.

7.6 The 2019 national aggregate minerals survey undertaken by British Geological Survey provides information on the movements of crushed rock. Table 7.2 shows the import and export data for crushed rock as well as material landed at wharves, combined for the entire North East. This highlights that in 2019, the region imported roughly twice as much material as was exported. However given the low proportion of overall consumption made up of imported crushed rock (11%), it is not considered that any supply issues in the region are demonstrated.

Table 7.2 Imports, exports and consumption of crushed rock in North East England 2019 (thousand tonnes)

Area	Imports	Exports	Total consumption
North East	658	356	5,771

Source: Table 3 Summary of exports and imports of primary aggregates 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.

7.7 Table 7.3 shows consumption in County Durham and demonstrates that County Durham is a net exporter of crushed rock. Tables 7.4 and 7.5 explore some of the inter-regional movements in more detail.

Table 7.3 Sales information for crushed rock in North East England in 2019 (thousand tonnes)

Aggregate type	Sales	Imports	Exports	Total consumption
Crushed rock	3,168	275	967	2,476

Source: Table 9i Sales of primary aggregates by MPA and principal destination sub-region in 2019: North East. Table 10 Imports of primary aggregates by sub-region in 2019. Table 11 Consumption of primary aggregates by sub-region in 2019. Collation of the results of the 2019 Aggregate Minerals Survey for England and Wales.

Exports

7.8 Table 7.4 shows the sales of crushed rock from quarries in County Durham and the principal destinations of these sales. County Durham recorded roughly 30% of sales outside their sub-region, with the majority of these remaining within the North East.

Table 7.4 Sales of crushed rock and principal destination sub-region, 2019 (thousand tonnes)

Source sub-region	Destination	Land won sand and gravel	MPA %
County Durham	Northumberland	2,201	69%
County Durham	North East	701	22%
County Durham	Elsewhere	266	8%
Total		3,168	

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

7.9 The consumption of crushed rock in County Durham is shown in Table 7.5. A large proportion of consumption (80% to 90%) is supplied from quarries within County Durham itself. There are also some notable movements from the adjoining areas of North Yorkshire, Cumbria and Northumberland (each 1% to 10% of consumption), as well as 1% to 10% of consumption from outside England and Wales. In addition of all of the crushed rock aggregate consumed in 2019 in the North East it is worth noting that 600,000 tonnes were classified with a destination of 'Unknown but somewhere in the North East'. The predominant sources of these materials were County Durham (40-50%) and South Tyneside (30-40%).

Table 7.5 Consumption of crushed rock for aggregate use in 2019 identifying the principal supplying MPAs.

Source MPA	Destination sub-region
Durham County Council	80-90%
Northumberland County Council	1-10 %
Northumberland National Park Authority	<1%
Sunderland City Council	<1%
North Yorkshire County Council	1-10%
Yorkshire Dales National Park	<1%
Cumbria County Council	1-10%
Derbyshire County Council	<1%
Leicestershire County Council	<1%
Neath Port Talbot	<1%
Outside England and Wales	1-10%
Total consumption (thousand tonnes)	2,476

Calculation of demand

7.10 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 as discussed in Chapter 4;
- Demand for aggregates from large infrastructure projects will be broadly similar to previous projects, or at least not significantly higher as discussed in Chapter 4;
- Sales figures from 2020 are not representative due to the impact of the pandemic as discussed in Chapter 4 and should not be included in calculation of sales averages;
- Recycled aggregates will continue to make an important contribution to overall supply as discussed in Chapter 5;
- There will continue to be no material landed at wharves that will contribute to overall supply as discussed in Chapter 7; and
- Levels of imports and exports of crushed rock will remain broadly consistent with data recorded in 2019.

7.11 Table 7.1 (above) provides a summary of sales of sand and gravel within County Durham and the North East for the period 2012 to 2021 respectively. The table also provide 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 (2018 to 2021, excluding 2020) - 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.
- County Durham Sales as percentage of North East Sales.

7.12 As discussed in Chapter 6, sales in 2020 will have been affected by the impact of the pandemic both through restrictions affecting production at sites (supply) and restrictions affecting constructions sites using aggregates (demand). Sales in 2020 were the third lowest over the ten-year period 2012 to 2021 and markedly lower than the two years preceding (2018 and 2019) and 2021. 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. It is still considered appropriate to include the year 2020 in calculations of the 10-year year averages as these cover a longer period and therefore conditions which are unrepresentative make less of an impact to this calculation.

7.13 Table 7.6 sets out the recommended annual demand requirement for crushed rock calculated by this LAA. These figures will be revisited each year through the preparation 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.

Table 7.6 Proposed annual demand requirement for land-won crushed rock based upon the three-year sales average (Tonnes)

North-east sub-region	Crushed Rock
County Durham Annual Demand Requirement	3,320,000

Reserves/Landbank

7.14 As at 31 December 2021, 93.810 million tonnes of permitted reserves remained to be worked in County Durham. Based on the demand forecast and a recommended annual provision from County Durham of 3,320,000 tonnes, this equates to a landbank of permitted reserves of 28.2 years at 31 December 2021 (based upon the annual demand requirement in this LAA).

7.15 Two sites are allocated in the County Durham Plan for crushed rock working. One of these sites was granted planning permission in June 2019 and has introduced an additional 3.7 million tonnes of permitted reserves into the landbank. One additional allocation is at the planning application stage and has the potential to provide add an additional 8.2 million tonnes into the landbank (see Appendix D).

7.16 Table 7.7 below provides an overview of crushed rock permitted reserves across the North East over the ten year LAA reporting period. At the end of 2021 County Durham's crushed rock quarry's contained approximately 53% of all crushed rock permitted reserves in the North East . As set out above in Table 7.1 County Durham's crushed rock quarry's accounted for 58.1% of all land won sales in the North East in 2021 and as such shows the current reliance of the North East on County Durham quarry's.

Table 7.7 Crushed Rock Reserves in County Durham, Northumberland, Tyne & Wear and the Tees Valley and the North East 2012 to 2021 (thousand tonnes)

Area	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
County Durham	134,065	140,732	138,346	138,326	131,390	130,745	122,259	111,060	109,671	93,810
Northumberland	77,264	76,643	77,972	83,991	82,917	81,016	78,520	80,070	78,681	76,086
Tyne & Wear and Tees Valley (combined)	3,199	2,998	2,799	8,633	8,175	8,907	8,445	6,903	6,996	6,764
North East England	214,528	220,373	219,117	230,950	222,482	220,668	209,224	198,033	195,348	176,660

Source: North East England Aggregates Working Party Annual Report 2021 Published [Draft – November 2022].

7.17 A quantitative assessment of the balance between the quantum of permitted reserves and the calculated demand is set out below.

Table 7.8 An assessment of the balance between supply and demand for crushed rock aggregate use from County Durham (Tonnes)

Supply and demand information	County Durham Plan Forecast period 2022 to 2035 (14 years)	Standard 16 Year Forecast period 2022 to 2037 (16 years)
Permitted reserves at 31 December 2021	93,810,000	93,810,000
Ten year sales average 2012 to 2021	2,752,000	2,752,000
Three year sales average 2018 to 2021 (excluding 2020)	3,320,000	3,320,000
Annual demand Requirement in LAA	3,320,000	3,320,000
Demand forecast	46,620,000	53,280,000
Landbank based on annual demand calculated in LAA	28.2 years	28.2 years
Balance between quantum of permitted reserves and demand	47,190,000	40,530,000

7.18 Durham County Council has sought to understand the extent of permitted reserves within each of County Durham's crushed rock quarries, the spatial distribution of permitted reserves and the split of permitted reserves by resource type. This has been achieved through the Council's own annual survey of mineral operators and through the consideration of information submitted as part of planning applications. Where information has not been available from operators, best estimates have been made. The results of this work are set out in Table 7.9, Table 7.10 and Table 7.11. This work gives an indication that in 2021 the majority of

crushed rock permitted reserves in County Durham were magnesian limestone. In 2020 it was estimated that approximately 81.8% of permitted reserves were magnesian limestone, 12.69% carboniferous limestone and 5.5% were dolerite.

7.19 These tables also show the Council's estimate of productive capacity. These estimates have been prepared taking into account all available information including that found within past planning applications, operator monitoring reports and operator submissions to the Council's own annual monitoring survey. It should be noted that some sites have in the past produced both above and below the Council's estimate of productive capacity. This being particularly true of some of the County's carboniferous limestone sites, in particular Hulands Quarry which has in recent years been worked more quickly than originally anticipated due to works to improve and upgrade major roads within the North East and North Yorkshire.

Table 7.9 Estimate of Permitted Reserves, Potential Productive Capacity on 31 December 2021 – Carboniferous Limestone (Tonnes)

Quarry Name	Estimate of permitted reserves 31.12.21 (tonnes)	Estimate of productive capacity (tonnes per annum)	Comments on potential future supply
Heights Quarry	5,900,000	300,000	Future extraction anticipated at a rate of up to 300,000 tonnes per annum in the longer term to at approximately 2042.
Hulands Quarry	900,000	300,000	Future extraction anticipated to be at a rate of up to 300,000 tonnes per annum (based on operator proposed rate of working submitted in response to County Durham Plan call for sites). Future working beyond the short term dependent on new planning permission as current permission for extraction ends in 2024. An 8.2 million tonne extension allocated in County Durham Plan (October 2020). Subject to a future planning application being granted planning permission the site would be able to supply until approximately 2051. An additional eastern allocation of 6 million tonnes was submitted by a landowner in response to the call for sites for the County Durham Minerals and Waste Policies and Allocations Document. This additional area has not been identified for allocation in the Publication Draft document.
Kilmond Wood Quarry	4,810,000	300,000	Future extraction anticipated to be at a rate of up to 300,000 tonnes per annum in the long term to approximately 2042.

Broadwood Quarry	355,000	Not known	It is not certain that working will resume in Phase 3. Contribution to future supply is currently considered to be zero. The extraction of limestone in Phase 2 ceased on 24 September 2009 when the reserves were exhausted. The Council has previously taken the view that mineral working has ceased at the site and that a restoration scheme is now required.

Table 7.10 Estimate of Permitted Reserves, Potential Productive Capacity on 31 December 2021 – Magnesian Limestone (Tonnes)

Quarry Name	Estimate of permitted reserves 31.12.21 (tonnes)	Estimate of productive capacity (tonnes per annum)	Comments on potential future supply
Witch Hill Quarry	1,500,000	50,000 to 150,000	Site currently inactive. Periodic Review Submission awaiting determination. Future extraction anticipated at between 150,000-250,000 tonnes (all minerals) of which 50,000-150,000 tonnes will be aggregates. There is no definitive timescale for working to resume. Contribution to future supply in the short to medium term is currently considered to be zero. However, it is assumed that permitted reserves will be worked in the longer term but prior to 2042. Operator has also proposed a 5 million tonnes easter extension to site through the emerging County Durham Minerals and Waste Policies and Allocations Document but the site has not been allocated.
Running Waters Quarry	350,000	Not known	Site currently inactive. Uncertainty as to whether the site will be worked. Contribution to future supply is currently considered to be zero. Previous owner had sought to exchange permitted reserves for new reserves at Witch Hill Quarry.
Crime Rigg Quarry	900,000	100,000	Site has permission for working until 2022. Extraction anticipated to be around 100,000 tonnes per annum with unworked permitted reserves remaining at 2022. Planning application submitted to extend duration of working to 2030. Operator has also proposed an extension to site containing 1.775 million tonnes through the emerging County Durham Minerals and Waste Policies and Allocations Document which has been identified for allocation in the Publication Draft document.

Bishop Middleham Quarry	4,800,000	450,000	Site has permission for working until 2029. Extraction anticipated to be at up to 450,000 tonnes per annum (excluding mineral extracted for agricultural lime).
Old Quarrington and Cold Knuckle Quarry	9,500,000	300,000	Site has permission for working until 2042. Operator has previously advised that the site could produce up to 300,000 tonnes of crushed rock aggregate per annum. Permitted reserves at this site will be sufficient to contribute to supply over the long term to at least 2042.The majority of reserves in the site lie within an area which requires new conditions prior to working commencing. A planning application is expected in the next one to two years for these permitted reserves..
Thrislington Quarry West	1,050,000	200,000	Site has permission for working until 2030. Extraction anticipated to be at approximately 100 to 200,000 tonnes per annum.
Thrislington Quarry East	11,400,000	600,000	Site has permission until 2045. Operator submitted a planning application in December 2018 seeking a variation to the existing planning permission which proposed that this site would be worked only for aggregate purposes till 2022/2023. It sought permission to extract circa 2 million tonnes at a rate of circa 600,000 tonnes over approximately 3..5 years. It is now expected that the remaining component of this 2 million tonnes will be worked until the end of 2023 or beginning of 2024. Production is then proposed to be transferred into Cornforth West Quarry. Thrislington East will then be mothballed. It is assumed that the site will resume working in the early/middle 2030s. Future working dependent on demand for high grade dolomite and availability of permitted reserves elsewhere in the UK.
Cornforth West Quarry	10,500,000	600,000	Site currently inactive. Periodic Review Submission awaiting determination. Production forecast to now commence in. Future extraction anticipated to be approximately 600,000 tonnes per annum and will replace sales from Thrislington East Quarry.

Cornforth East Quarry	20,000,000	To follow on from Cornforth West Quarry	Site currently inactive. Periodic Review Submission awaiting determination. Operator proposes that working will commence following cessation of working at Cornforth West Quarry. A new planning permission would be required. Subject to planning permission being granted permitted reserves sufficient for 30+ years at a rate of 600,000 tonnes and will replace sales at Cornforth West Quarry.
Coxhoe Quarry (formerly Raisby Quarry)	17,730,000	850,000	Site contains extensive permitted reserve suitable for aggregate working and additional reserves suitable for agricultural lime production. Future extraction anticipated to be approximately 850,000 tonnes per annum, although this could be higher. Operator has also proposed a 37 million tonnes eastern extension to site through the emerging County Durham Minerals and Waste Policies and Allocations Document but the site has not been allocated.

Table 7.11 Estimate of Permitted Reserves and Potential Productive Capacity on 31 December 2021 – Dolerite (Tonnes)

Quarry Name	Estimate of permitted reserves 31.12.21 (tonnes)	Estimate of productive capacity (tonnes per annum)	Comments on potential future supply
Force Garth Quarry	5,200,000	290,000	Extraction anticipated to be up to 290,000 tonnes per annum when in full production. Following issue of discharge of condition application in February 2020 permitted reserves have fallen.

Forecast Scale of Future Provision

7.20 In quantitative terms it is considered that County Durham does not need to seek to make any additional provision for crushed rock over the period to 2035 and 2037 as there are sufficient reserves with planning permission to deliver supply over these periods.

7.21 County Durham needs to ensure a steady and adequate supply of aggregates to meet the needs of society. County Durham's quarries produce large quantities of differing types of crushed rock aggregate. A key recommendation of previous LAAs has been that consideration needs to be given to how continued production of the differing types of crushed rock lying within County Durham can continue e.g., on a resource basis. This is addressed below

Carboniferous Limestone

7.22 In recognition that without additional provision, that supplies of carboniferous limestone within County Durham would become depleted and largely exhausted over the period to 2035, the Council through the provisions of the County Durham Plan Policy 49 (Primary Aggregates Provision) has identified a need for an additional 14.3 million tonnes of carboniferous limestone. Through this plan and in order to meet this identified need the Council has allocated via the provisions of Policy 58 (Preferred Areas for Future Carboniferous Limestone Extraction) an eastern extension to Hulands Quarry (8.2 million tonnes) and a western extension to Heights Quarry (3.7 million tonnes), which has now received planning permission.

7.23 The need identified by CDP Policy 49 was sufficient to meet needs to 2035 plus ten years supply of carboniferous limestone and this forecast was calculated on this basis of 900,000 tonnes per annum. While it is acknowledged that there is a theoretical shortfall of approximately 2.4 million tonnes, between the permitted reserves that the two CDP site allocations identified under CDP Policy 58 would provide and the County Durham Plan target of 14.3 million tonnes (CDP Policy 49), this is only equivalent to approximately 3 years supply based on current sales and is not actually needed to maintain a steady and adequate supply of carboniferous limestone over the period to 2035. Furthermore, through monitoring of sales on a resource level the Council calculates that in the first five years of the County Durham Plan period 2017 to 2021 total sales of carboniferous limestone were approximately 1.2 million tonnes lower than that would have been achieved had the 900,000 tonnes per annum target been met.

7.24 It is considered that the County Durham Plan Preferred Area at Hulands Quarry in combination with existing permissions at Heights Quarry (which now has planning permission to 31st September 2046) and Kilmond Wood Quarry (which has planning permission to 21 February 2042) should provide for a sufficient supply of carboniferous limestone. Furthermore, additional mineral may become available if mineral extraction were to resume at Broadwood Quarry (although the LAA recognises that it is not certain that working will resume in Phase 3 and therefore the contribution to future supply is currently considered to be zero).

Magnesian Limestone

7.25 It is considered that a steady and adequate supply of magnesian limestone aggregate will be able to be maintained in the long term.

7.26 Previous LAAs have reported that a number of County Durham's crushed rock quarries are currently inactive and some have not been worked for some years. However, the Council has been approached by the operators of a number of inactive quarries seeking to agree new schemes of working and restoration[20] The Council is also considering a planning application to work two adjacent dormant magnesian limestone permissions at Tuthill Quarry, together with further quantities of magnesian limestone on adjoining land. Significantly, it should be noted that mineral extraction is expected to cease at Thrislington Quarry East which in addition to containing large quantities of high-grade dolomite (also known as industrial dolomite) also contains a

[20] At Witch Hill Quarry, Cornforth West Quarry, Cornforth East Quarry and also at Hawthorn Quarry.

large quantity of permitted reserves suitable for aggregates use. This is because the permission at this quarry is restricted by legal agreement to the use of a proportion of the mineral to high grade purposes for which there is not a current demand from quarries in County Durham[21]. However, the Council is currently considering an application to allow the continued working of aggregates at Thrislington Quarry East in the very short term while the operator prepares a new scheme of working and restoration at Cornforth West and Cornforth East Quarry's, thereby maintaining a continuity of supply from these quarries which are within one operator's ownership.

7.27 Previous LAAs have reported the current planning permission for mineral extraction at a number of the magnesian limestone quarries in County Durham have end dates before 2034. However, it should be noted that in February 2018 members resolved to grant planning permission to extend the time period for the working of Coxhoe Quarry. In addition, the County Durham Plan is permissive towards granting planning permission for an extension of time at existing sites where permitted reserves remain at the end date of the current planning permissions.

Wider Supply Considerations

7.28 As a rural County located between both Tyne and Wear to the north and the Tees Valley to the south it is recognised that County Durham has traditionally had a role in supplying crushed rock aggregate into areas outside of County Durham where the resources are less abundant and where there is significant demand. In this respect it is recognised that on the basis of the extent of existing permitted reserves, recent sales and what is understood in relation to the productive capacity of existing sites in the County, County Durham's crushed rock sites will continue to make a significant contribution to meeting the needs of both surrounding sub-regions. However, it should also be recognised that if this were to continue to occur, this would lead to a more rapid depletion of permitted reserves within County Durham, which may not be easily replaced in the longer term. On this basis it is also recommended that Council should continue to seek to ensure that adjoining sub-regions within the North East should seek to make additional provision through the review of their own development plans.

7.29 Similarly, where necessary Durham County Council also considers emerging development plans and Local Aggregate Assessments prepared by Council's outside of the North East. This is considered to be particularly important in relation to North Yorkshire County Council, due to the supply relationships with one another and with the Tees Valley. It is recommended that the Council should continue to liaise with other Council's outside of the North East where necessary to ensure that surrounding regions continue to seek to make sufficient provision through the review of their own development plans and maintain established supply relationships.

[21] Following the restructuring in the steel industry in the UK, the kilns at Thrislington West Quarry, operated by Lhoist closed in 2016. Current demand for high grade dolomite in the UK is currently met by Whitwell Quarry in Derbyshire. The permitted reserves at Thrislington East Quarry is the sole remaining permitted resource of this mineral and needs to be carefully husbanded and is considered as an important national resource.

Appendix A - Aggregate mineral sites

A.1 This appendix provides details of all active aggregate mineral sites in County Durham. In addition, this appendix also provides details of all aggregate mineral sites in County Durham upon which new schemes of conditions for working and restoration are required prior to the winning and working of aggregate minerals being resumed.

Magnesian limestone

A.2 On 31 December 2021 there were ten[22] quarries with planning permission to work magnesian limestone in County Durham (see Table A1). A number of these quarries have not been active in recent years. However, Old Quarrington and Cold Knuckles Quarry resumed production in 2016 and in 2019 two planning applications were submitted to consolidate the existing permissions (DM/19/01133/VOCMW and DM/19/01135/VOCMW) and are currently pending decision. In recent years the Council has now been approached by several mineral operators who have begun to progress preparing new schemes of working at several inactive quarries including Witch Hill Quarry, at both Cornforth West Quarry and Cornforth East Quarry and at Hawthorn Quarry. These applications are all pending consideration.

A.3 On the 21 December 2018 planning permission was issued to extend the time period of working at Thrislington West Quarry to the 15 January 2030 (DM/15/00127/MIN).

A4. On the 20 December 2018 an application was made for a temporary variation of the extant permission at Thrislington East Quarry (7/2006/0179CM (DCC Reference: CMA/7/55)) which was granted permission in July 2011. It was proposed to vary conditions to allow a change to the working method and working hours for Phase 2 and variation to the associated S106 agreement in terms of the percentage of High-Grade Dolomite removed from the site. (The original permission allowed the extraction of circa 30 million of high-quality dolomitic limestone over seven phases to June 2045, providing raw materials for the adjacent Thrislington works which supplied refractory products to the UK Steel industry. The planning permission was granted subject to a section 106 agreement which required the operator to maximise the use of high-grade dolomite for named industrial product end uses and requires at least 28% of total sales to be for high grade uses). The variation seek to vary the approved scheme and modify the section 106 agreement to enable the extraction of circa 2 million tonnes of aggregate grade stone which is presently exposed in the quarry. The interim restoration of the quarry is proposed.

A.5 Within County Durham there are also a further four sites which further working could occur. These are identified as either, dormant, Interim Development Orders or inactive Active Phase 1 sites which never completed the initial process of agreeing new planning conditions (see Tables A2, A3 and A4). It should be noted that the Council is not relying on any of these sites to meet future need. Two of these sites have been partially landfilled, Coxhoe Quarry (Joint Stocks Quarry Landfill), John

[22] Aycliffe Quarry East ceased mineral extraction 2014. (Please note for clarity that Thrislington Quarry will now be treated as two permissions, reflecting the two planning permissions west and east of the A1(M).

O'Tooles (Leasingthorn) Quarry and Tuthill Quarry partially infilled with colliery waste.

Table A.1 Quarries with planning permission for magnesian limestone extraction in County Durham

Quarry	Location and Grid Reference	Operator	Planning status on 31 December 2021	Expiry date for extraction	Designations
Bishop Middleham Quarry	Ferryhill NZ 328 326	W & M Thompson Quarries	Active	30/06/2029 (1)	SSSI
Cornforth East	West Cornforth NZ 325 344	Tarmac	Inactive	21/02/2042 (2)	
Cornforth West	West Cornforth NZ 325 344	Tarmac	Inactive	21/02/2042 (3)	
Coxhoe (Raisby) Quarry	Coxhoe NZ 347 352	Breedon	Active	01/09/2018 (4)	SSSI (Geological)
Crime Rigg Quarry	Sherburn NZ 346 416	Breedon	Active	31/12/2022	SSSI (Geological)
Old Quarrington and Cold Knuckles Quarry	Bowburn NZ 330 380	Tarmac	Active	21/02/2042	
Running Waters Quarry	Bowburn NZ 334 403	Breedon	Inactive	21/02/2042	
Thrislington Quarry East	Cornforth NZ 317 322	Tarmac	Active	01/07/2045(5)	
Thrislington Quarry West	Cornforth NZ 317 322	Tarmac	Active	15/01/2030 (6)	
Witch Hill Quarry	Sherburn NZ 345 397	Breedon	Inactive	21/02/2042 (7)	

1. On 10 June 2015 the Council granted planning permission No. CMA/7/102 for the proposed western extension for the extraction of 5.5 million tonnes of magnesian limestone over a 14 year period with restoration to agriculture through tipping.
2. On 21 December 2018 Tarmac submitted an Environment Act 1995 - Periodic Review of Mining Sites application for Cornforth East Quarry. This application is pending consideration.
3. On 21 December 2018 Tarmac submitted an Environment Act 1995 - Periodic Review of Mining Sites application for Cornforth West Quarry. This application is pending consideration.
4. On 10 April 2017 Breedon submitted a new application in April 2017 to extend quarry operations until 2042 with restoration by 2044.This planning permission was issued on the 30 June 2020.
5. In December 2018 Tarmac submitted an application seeking to vary the existing permission (variation of Conditions 1 (Approved documents), 12 (Working hours in Phase 1) of Planning Permission No. 7/2006/0179CM (DCC Reference: CMA/7/55) to allow a change to the working method and working hours for Phase 2 and variation to the associated S106 agreement in terms of the percentage of High Grade Dolomite removed from the site). This application is pending consideration.
6. Planning permission was issued on 21 December 20918 to allow the continued extraction of the remaining limestone reserves and revised working area for the extraction of Basal Permian sand for 15 years until 2030, subject to a completion of a planning obligation under Section 106 of the Town and Country Planning Act 1990 (as amended).

7. In December 2015 Sherburn Stone submitted a periodic review of the mineral planning permissions at Witch Hill Quarry. The environmental statement which accompanied the ROMP advised that the quarry will work until 2042 and operations will commence in 5 years. It also advised that the 3.125 million tonnes of reserves within the site would be extracted at a rate of 150-200,000 tonnes per annum of which approximately 100,000 tonnes will comprise agricultural lime which will be exported to continental Europe via Seaham or Hartlepool docks. This application is pending consideration.

Table A.2 Dormant Sites (Magnesian Limestone)

Site Name	Location and Grid Reference	Designations
Tuthill Quarry(1)	Haswell 390442	SSSI
Coxhoe (Joint Stocks)	Coxhoe 325366 and 330364	
John O'Tooles (Leasingthorne) Quarry	Bishop Auckland	

1. In February 2017, Owen Pugh submitted a planning application to extract 2.77 million m^3 (approximately 5 million tonnes) of magnesian limestone at Tuthill Quarry with the restoration of the existing and proposed void through the importation of clays and soils (DM/17/00464/MIN). This application is pending consideration.

Table A.3 Interim Development Orders (Magnesian Limestone)

Site Name	Location and Grid Reference	Designations
Chilton Quarry	Ferryhill Station 298325	

Table A.4 Inactive Active Phase 1 Sites requiring new conditions

Site Name	Location and Grid Reference	Designations
Hawthorn Quarry(1)	Seaham 438462	SSSI

1. 8/MRA/5/1 - Environment Act 1995: Periodic Review of Mining Sites. Application for the determination of new planning conditions for working and restoration relating to Planning Permission Nos CA25968, CA42376, CA45928, CA47394 and 5/81/274CM. This application was received on 16 December 1997. Subsequent to this submission an Environmental Statement was submitted in May 2000 and the application was then put on hold pending receipt of further information. Further information was requested from Tarmac in April 2009 and a Scoping Opinion was provided. A further Scoping Report was then submitted in July 2015 which resulted in a submission of an Environmental Statement in 2017. In December 2017, Tarmac submitted an Environment Act 1995: Periodic Review application for Hawthorn Quarry (DM/17/04033/MIN). The planning application advised that it is likely that 10.5 million tonnes of mineral is likely to be extracted over the life of the quarry. In total it is understood that Hawthorn Quarry contains 12,659,000 of magnesian limestone of which 9,537,000 is claimed as high grade. This application is pending consideration.

Carboniferous limestone

A.6 There are only five quarries with planning permission to work carboniferous limestone (see Table A5). The two largest by virtue of permitted reserves remaining are Heights Quarry and Kilmond Wood Quarry have both had sizeable extensions permitted in the last few years. Only limited permitted reserves currently remain at Hulands Quarry but an allocation has now been made within the County Durham Plan which seeks to facilitate its extension and an application was made which included land both within and outside of the allocated area in May 2022. Both Heights Quarry and Hulands Quarry both have asphalt/coating plants. On 21 September 2021 the operators of Kilmond Wood Quarry submitted a planning application for the proposed installation and use of an asphalt plant. This is pending consideration.

Table A.5 Quarries with planning permission for Carboniferous limestone extraction in County Durham

Quarry	Location and Grid Reference	Operator	Planning status on 31 December 2020	Expiry Date for Extraction	Designations
Broadwood Quarry	Frosterley NZ 035 365	Breedon	Active	21/02/2042	AONB
Heights Quarry	Westgate NY 925 388	Aggregate Industries UK	Active	30/09/2046	AONB
Hulands Quarry	Bowes NZ 016 140	Aggregate Industries UK	Active	31/12/2026	
Kilmond Wood Quarry	Bowes NZ 024 134	Kearton Farms	Active	21/02/2042	

A.7 There are also eleven other carboniferous limestone quarry's where working could theoretically resume, subject to permitted reserves remaining and the agreement of new modern working and restoration conditions by the Council under provisions of the Environment Act 1995 (see Tables A6 and A7). Harrow Bank and Ashy Bank Quarry is an Active Phase 1 Site which requires new conditions to be agreed by the Council and the application stalled in 2007 (see Table A7). Given the lack of progress with this application, it is not considered reasonable to place any reliance on this site for future mineral supply and the reserves within this site are not included within the permitted reserves or landbank figures in this LAA. With the exception of Harrow Bank and Ashy Bank Quarry, there is no information currently available on the extent of remaining reserves in any of these sites and no known interest by any operator in progressing proposals to resume working.

Table A.6 Dormant Sites (Carboniferous Limestone)

Site name	Location and Grid Reference	Expiry date for extraction	Designations
Bollihope (Jopler Sykes)	Frosterley 988 352	21/02/2042	AONB, SPA, SAC, SSSI
Bollihope L20	Frosterley 987349	21/02/2042	AONB, SPA, SAC, SSSI
Bollihope L21	Frosterley 995355	21/02/2042	AONB, SPA, SAC, SSSI
Carriers Hill	Killhope 825435	21/02/2042	AONB
Greenfield	Lanehead 852421	21/02/2042	AONB
Parson Byers	Stanhope 005370	21/02/2042	AONB

Puddingthorn	Lanehead 840425	21/02/2042	AONB
Scutterhill	Westgate 911389	21/02/2042	AONB
Side Head	Westgate 890389	21/02/2042	AONB
White Hills	Ireshopeburn 855389	21/02/2042	AONB

Table A7 Inactive Active Phase 1 Sites requiring new conditions

Quarry	Location and Grid Reference	Operator	Planning status on 31 December 2021	Expiry Date for Extraction	Designations
Harrow Bank & Ashby Bank Quarry	Eastgate	Tarmac	Inactive (Active Phase 1 site)	21/02/2042[1)]	AONB

1. In 1998 Tilcon (North) Ltd submitted an application for the determination of conditions for this site under the provisions of the Environment Act 1995. Determination of the submission was suspended in December 1998 until such time that an Environmental Statement and other documents required were submitted to the Council. In May 2007 Tarmac Northern Ltd (now known as Tarmac) submitted an Environmental Statement and a revised schedule of working and restoration conditions to the Council, proposing to work part of this site in order to extract 3,750,000 tonnes of carboniferous limestone from 30 ha of the 76.4 ha permission area over a 15 year period (8/MRA/3/4). No further progress has been made with the reopening of the quarry since this date.

Dolerite (also known as Whinstone)

A.9 Currently there is only one quarry producing dolerite in the County, Force Garth Quarry in Teesdale, (see Table A8). This quarry is viewed as an important component of the County's aggregate supply network. The majority of the Force Garth permission is designated as part of the Moor House-Upper Teesdale Special Area of Conservation (SAC) and North Pennines Moors Special Protection Area (SPA) under the EU Habitats and EU Wild Birds Directive. The periodic review under the Environment Act 1995 has been submitted but has not yet been determined. This was due to the need to first undertake a separate assessment, as required by Regulation 63 of the Conservation of the Habitats and Species Regulations 2010 (as amended) and the EU Habitats Directive (Directive 92/43/EEC) as well as the need for further information in respect of the review permission itself. The County Council has now concluded the Regulation 63 Review and is of the view that the proposed working will have some affect but no likely significant effect on the integrity of European designated sites either alone or in combination with other mineral consents adverse effect, on the integrity of European Designated Sites in combination with other mineral consents. The Periodic Review submission made under the Environment Act 1995 has not yet been determined. This does not prevent the site from working. A Discharge of Condition application was submitted in December 2018 and was approved on 13 February 2020 (DRC/18/00471).

A.10 In addition there are also a number of small dormant dolerite quarries where working could theoretically resume, subject to permitted reserves remaining and the agreement of new modern working and restoration conditions by the Council under provisions of the Environment Act 1995. In this respect there is no information currently available on the extent of remaining reserves and no known interest by any operator in progressing proposals to resume working, (see Table A9).

Table A.8 Sites with planning permission for Dolerite extraction in County Durham

Quarry	Location and Grid Reference	Operator	Planning Status on 31 December 2021	Expiry Date for Extraction	Designations
Force Garth Quarry	Middleton-in-Teesdale NY 872 282	CEMEX	Active	21/02/2042	AONB, SPA, SCA, SSSI

Table A.9 Dormant Sites (Dolerite)

Quarry	Location and Grid Reference	Expiry date for extraction	Designations
Cockfield	Teesdale 130248	21/02/2042	
Crossthwaite	Holwick 925253	21/02/2042	AONB
Greenfoot	Stanhope	21/02/2042	AONB
Middleton	Holwick 949245	21/02/2042	AONB
Park End	Holwick 921258	21/02/2042	AONB

Sand and gravel

A.11 Basal Permian Sand is currently worked at three quarries on the East Durham Limestone Plateau at Thrislington West Quarry, OId Quarrington and Cold Knuckle Quarry and at Crime Rigg Quarry (see Table A10). Generally, this sand is linked with the working of the economically important overlying magnesian limestone. While the deposit is a uniformly graded fine aggregate and has traditionally been mainly worked as a source of building sand and asphalting sand, it is understood that quarries in County Durham are also producing quantities of concreting sand from these deposit[23].

A.12 Fluvial sand and gravel deposits are currently worked in County Durham at Low Harperley near Wolsingham (8/CMA/3/31). In addition, in November 2011 a new scheme of working and restoration conditions were issued at a previously dormant site at Hummerbeck near West Auckland, enabling the recovery of 670,000 tonnes

[23] At Thrislington Quarry some basal permian sand is blended with limestone fines to produce concreting sand.

of sand and gravel over an 8 year period (8/MRA/6/9, (in addition planning permission for a concrete batching plant was also given). To date working has not commenced at Hummerbeck.

A.13 In addition there are also a small number of dormant/Interim Development Order sand and gravel quarries where working could theoretically resume, subject to permitted reserves remaining and the agreement of new modern working and restoration conditions by the Council under provisions of the Environment Act 1995. In this respect there is no information currently available on the extent of remaining reserves and no known interest by any operator in progressing proposals to resume working at any of these sites, (see Table A11 and A12).

Table A.10 Quarries with planning permission for sand and gravel working in County Durham

Quarry	Location and Grid Reference	Operator	Planning status on 31 December 2020	Expiry date for extraction	Designations
Crime Rigg Quarry	Sherburn NZ 346 416	Breedon	Active	31/12/2022	SSSI
Hummerbeck Quarry	West Auckland NZ 187 254	Hall Construction	Inactive[1]	21/02/2042	
Low Harperley Quarry	Wolsingham NZ 112 356	Breedon	Active[2]	08/08/2032	
Old Quarrington and Cold Knuckles Quarry	Bowburn NZ 330 380	Tarmac	Active	21/02/2042	
Thrislington Quarry	Ferryhill NZ 317 322	Tarmac	Active	15/01/2030	

1. Hummerbeck Quarry - Planning permission was issued on 25 November 2011. Period of working would be 8 years. However, the site actually has permission to 2042. Working of this permission has yet to commence.
2. Low Harperley Quarry - Development commenced in August 2016 following the grant of planning permission on 19 August 2013.

Table A.11 Dormant Sites (Sand and Gravel)

Quarry	Location and Grid Reference	Expiry Date for Extraction	Designations
Page Bank	Byers Green, Wear Valley	21/02/2042	
Roger Hill	Derwent Bridge Wear Valley	21/02/2042	
Wolsingham	Wear Valley	21/02/2042	

Table A.12 Interim Development Order Sites (Sand and Gravel)

Quarry	Location and Grid Reference	Expiry Date for Extraction	Designations
Gypsy Lane Quarry (1)	Nunstainton East 313295	21/02/2042	

1. Gypsy Lane - One extant planning permission exists at this quarry. This is an Interim Development Order (IDO) permission and no working of the site can take place until there has been a determination of new conditions by the Minerals Planning Authority under the requirements of the Planning and Compensation Act 1991.

Appendix B - Secondary and recycled aggregate facilities

B.1 This appendix provides details of all permanent secondary and recycled aggregate facilities in County Durham. In addition, it should be noted that it is understood that within the North East mobile facilities make a significant potential to the production of recycled aggregates at brown field redevelopment sites.

B.2 County Durham contains eight fixed recycled and secondary aggregate sites. Details of these sites are shown in Table B1. It is also understood that some recycled aggregates are also produced at other existing waste management sites.

Table B.1 Secondary and Recycled Aggregates Facilities in County Durham

Site Name	Location	Operator	Material	Status	Planning Permission End Date
Bishop Middleham Quarry	Bishop Middleham	W&M Thomson	Construction, demolition and excavation wastes	Active	11/06/2052
Aycliffe Quarry	Aycliffe	Stonegrave Aggregates	Construction, demolition and excavation wastes	Active	21/2/2042
Thrislington Quarry	Cornforth	Tarmac	Construction, demolition and excavation wastes	Active	15/01/2030
Old Quarrington Quarry	Bowburn	Tarmac	Construction, demolition and excavation wastes	Active	21/02/2042
Constantine Farm	Crook	W Marley	Construction, demolition and excavation wastes	Active	No end date.
Old Brickworks	Tanfield	Ken Thomas	Construction, demolition and excavation wastes	Active	No end date.
Heights Quarry	Westgate	Aggregate Industries	Construction, demolition and excavation wastes	Active	30/09/2046
Hulands Quarry	Near Bowes	Aggregate Industries	Construction, demolition and excavation wastes	Active	31/12/2026
Dean and Chapter Waste Recycling	Ferryhill	Bishop Middleham Plant and Recycling Ltd	Construction, demolition and excavation wastes	Active	No end date.
Esh Construction Recycling	Durham	Esh Construction Ltd	Construction, demolition and excavation wastes	Active	No end date.
Shaw Bank Waste Transfer Station	Barnard Castle	Francis & Richard Daniel Jackson	Construction, demolition and excavation wastes	Active	No end date.
Westline Transfer Station	Birtley	Remondis	Construction, demolition and excavation wastes	Active	No end date.

Appendix C - Mineral transport and processing infrastructure

C.1 This appendix provides details of aggregates transport and processing infrastructure.

C.2 In County Durham there is one port at Seaham which is capable of handling the importation and exportation of aggregates. It is understood that while the Port of Seaham has been used in the past to export limited quantities of coal, no minerals including aggregates are either imported or exported.

C.3 Thrislington Quarry West is the only quarry in County Durham served by a railhead. In addition, Policy M39 of the County Durham Minerals Local Plan (December 2000) sought to protect rail routes and alignments which were considered to have the potential to transport minerals by rail. An updated list of rail routes and alignments which could potentially be used to transport minerals by rail are listed in Table C1. These sites are now safeguarded by Policy 48 of the County Durham Plan.

Table C.1 Infrastructure associated with minerals transportation

Ports	Railheads	Rail Alignments (with potential to transport minerals)
Port of Seaham	• Thrislington Quarry • Ferryhill Station	• Thrislington rail line connecting with East Coast Mainline • Weardale Railway Line • Ferryhill-Cornforth-Coxhoe Quarry Alignment • Leamside Line

C.4 Details of all known mineral processing infrastructure relating to aggregate minerals and mineral extracted at aggregate quarries including sites for concrete batching and the manufacture of concrete products and coated materials are listed in Table C2 and C3.

Table C.2 Coating plants and kilns

Coating plan	Kiln for the production of calcined Material
• Force Garth Quarry • Heights Quarry • Hulands Quarry • Coxhoe Quarry	• Thrislington Quarry (inactive)

Table C.3 Concrete plants in County Durham

Site	Location	Operator
Consett Plant	Main Street, Crookhall, Consett, Durham DH8 7NE	Cemex Readymix
Durham Plant	Littleburn Industrial Estate, Langley Moor, Durham, DH7 8HH	Cemex Readymix
Newton Aycliffe Plant	Behind BSC, Off Cumbie Way, Newton Aycliffe, Durham, DL6 6YA	Cemex Readymix

Ferryhill	Thrislington Quarry, West Cornforth, Ferry Hill, DL17 9EY	Tarmac Ready Mix Concrete
Crime Rigg Quarry	Durham Concrete Plant, Crime Rigg Quarry, Shadforth, Sherburn Hill, Durham	Breedon
Durham	Dragonville Industrial Estate, Rennys Lane, Durham, DH1 2RS	Breedon
Bishop Auckland	Romanway Industrial Estate, Tindale Crescent, Bishop Auckland	Breedon
Coxhoe	Coxhoe Quarry, off Station Road, Raisby Hill, Coxhoe	Breedon

Appendix D - Local Plans

D.1 This appendix provides details of existing and emerging Local Plans which contain allocations for aggregate mineral working.

D.2 The County Durham Plan (CDP) (October 2020) allocates two sites for the extraction of primary aggregates to help meet identified need to 2035. These allocations are summarised in the table below.

Table D.1 Summary of sites allocated for aggregates extraction in the County Durham Plan (October 2020)

Allocation	Mineral Resource	Estimated Reserve	Status and Comments on future supply
Heights Quarry (Western Extension)	Carboniferous Limestone	3.7 million tonnes	Planning permission granted 6 June 2019. Extension now being worked.
Hulands Quarry (Eastern Extension)	Carboniferous Limestone	8.2 million tonnes	Planning application submitted on 24 May 2022. Pending consideration.

D.3 The County Council commenced work to prepare its Minerals and Waste Policies and Allocations document (M&WDPD) in January 2021. Consultation under Regulation 18 of the Town and Country Planning (Local Planning) (England) Regulations 2012 was undertaken between Friday 15th January 2021 and Friday 26th 2021 when the Council consulted for six weeks on its Regulation 18 Statement - Notice of Intention to Prepare a Local Plan Document and at the same time conducted a call for new minerals and waste sites.

D.4 Consultation on the Draft Minerals and Waste Policies and Allocations document under Regulation 18 of the Town and Country Planning (Local Planning) (England) Regulations 2012 was undertaken between Friday 24th September and Friday 5th November 2021 when the Council consulted for six weeks on the County Durham Minerals and Waste Policies and Allocations Document Draft Plan (September 2021).

D5 Consultation on the Publication Draft Minerals and Waste Policies and Allocations document under Regulation 19 of the Town and Country Planning (Local Planning) (England) Regulations 2012 commended on 28 November 2022 and ran until 13 January 2023. Details of the intended timetable for the M&WDPD is set out in a revised County Durham Local Development Scheme which was published in November 2022.

Appendix E - Major Infrastructure Projects

Table E.1 Major development projects of note in County Durham and surrounding areas – projects completed in recent years 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 in Northumberland 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 and North Yorkshire 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 the North East.
A19 Silverlink Junction Improvements	North Tyneside, Tyne and Wear	Improvements to the A19/A1058 Coast Road junction by upgrading the existing grade separated roundabout to a three level interchange.	Construction commenced in 2016. Completion by March 2019.	Materials include 4,785m3 of concrete, 11,042m3 of sub-base, 1,454m3 and 10,838 m3 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.	Development Consent Order submitted in Summer 2017. Construction commenced in 2019 and completion is expected by 2022.	Graded aggregates 140,000 m3, asphalt 40,000 m3, 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.	Scheme to commence 2020. Expected completion 2022-2023.	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 expected to be completed 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 is expected to be complete by Spring 2022.	Not known.
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. The majority of existing projects which have been under construction are expected to be completed in 2023.	Not known.

Table E.2 Major development projects of note County Durham 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 expected in January 2022. Construction could start soon after this.	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 expected to be submitted in Spring 2022 with work expected to commence 2024-25.	Not known. Likely to create additional demand from quarries in the south of County Durham and North Yorkshire, 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.
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.	Not known.