



CUMBRIA AND THE LAKE DISTRICT NATIONAL PARK
JOINT ANNUAL LOCAL AGGREGATES ASSESSMENT 2014
(incorporating figures for 2013)

SUPPORTING INFORMATION

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1. Introduction

Purpose of this Local Aggregates Assessment

- 1.1 Minerals planning authorities should plan for a steady and adequate supply of aggregates. It is a requirement of the National Planning Policy Framework (NPPF) to produce an annual Local Aggregates Assessment (LAA), the purpose of which is the annual assessment of the demand for, and supply of, aggregates in a minerals planning authority's area.
- 1.2 This is the second annual Cumbria LAA, consisting of a 2-page 'headline' document and this, more detailed, supporting information (found at: http://www.cumbria.gov.uk/planning-environment/policy/minerals_waste/MWLP/LAA.asp). It covers the whole of Cumbria and is prepared jointly by Cumbria County Council and the Lake District National Park Authority. It contains three elements:
- a forecast of the demand for aggregates;
 - an analysis of all aggregate supply options;
 - an assessment of the balance between demand and supply.

What are aggregates?

- 1.3 Aggregates are the basic raw materials used by the construction industry. Before the recession, annual sales were equivalent to nearly four tonnes per head of the population. Without them, houses, schools, hospitals, factories, offices and roads could not be built or maintained. They can be split into two main groups:-
- Primary aggregates. These are crushed rock and sand and gravel, which are extracted directly from the ground at quarries (**land-won** aggregates) or dredged from the sea (**marine-dredged** aggregates). Depending on their geological source, primary aggregates can have different properties or characteristics that can be important for their end-use.
 - Alternative aggregates. These are alternatives to primary aggregates and are regarded as more sustainable. They can be split into two sub-groups:-
 - **secondary aggregates** are a by-product of mining or quarrying operations or of other industrial processes; they can include colliery spoil, china clay waste, incinerator ash and pulverised fuel ash from power stations, industrial glass waste, ceramic waste, old tyres, slate waste, spent foundry sand and old blast furnace slag banks.
 - **recycled aggregates** are produced by recycling construction, demolition, excavation and other wastes. They can include crushed concrete, bricks and glass, old railway track ballast and the surface layers removed from roads during roadworks (road planings).

(The terms "secondary" and "recycled" aggregates are sometimes used interchangeably)

- 1.4 It can be easy to underestimate the importance of aggregates to the economy and to our quality of life, because they tend to be high volume relatively low cost materials. Their true value lies in their eventual end-use.
- 1.5 Until the late 1970's, sand and gravel were the predominant source of aggregates. Their proportion of total aggregates has declined since then, with crushed rock now the main source, and the market share of alternative aggregates has increased substantially.

Information used to produce the Cumbria LAA

- 1.6 The LAA should be based on a rolling average of 10 years sales data, but this must be augmented with other relevant local, regional and national information, plus an assessment of all supply options. The most significant information used to prepare this LAA is set out below:-
- the Annual Monitoring Survey forms, sent to all mineral operators in Cumbria for primary land won aggregates and for secondary/recycled aggregates; this survey collects sales data for each type of aggregate for the previous calendar year and also indicates the permitted reserves at year end;
 - data and information on marine dredged aggregates, held by the Crown Estate;
 - local information, which includes, but is not restricted to:
 - data provided in planning applications
 - liaison with minerals operators
 - levels of planned construction and house building in Cumbria
 - the economic strategy of the Local Enterprise Partnership
 - the NW Aggregates Working Party annual report
 - the four-yearly aggregate minerals survey carried out by the British Geological Survey for DCLG.
- 1.7 It has also been necessary to take account of the high specification roadstone quarries in the Yorkshire Dales National Park, as any reduced production from within the National Park could have an impact on the high specification roadstone quarries within neighbouring Cumbria.

2. Planning for Aggregate Minerals

The Managed Aggregates Supply System

- 2.1 Since the 1970's, there has been a national Managed Aggregates Supply System (MASS), which can demonstrate a successful track record in maintaining sustainable supplies of these essential construction materials. Originally, the MASS was founded on regular econometric model-based national estimates of need for aggregates projected forward for 15 years, which were then apportioned to regions. When the NPPF was introduced in 2012, it replaced this top-down approach with a bottom-up approach. During 2014, the MASS moved from a stand-alone document into the on-line Planning Practice Guidance (<http://planningguidance.planningportal.gov.uk/blog/guidance/minerals/planning-for-aggregate-minerals/the-managed-aggregate-supply-system/>).
- 2.2 The MASS seeks to ensure a steady and adequate supply of aggregates, taking into account the significant geographical imbalances in the occurrence of suitable natural aggregate resources and the areas where they are most needed. It requires mineral planning authorities that have adequate resources of aggregates to make an appropriate contribution to national as well as local supply, while making due allowance for the need to control any environmental damage to an acceptable level. The North West, as a whole, meets only around half of its aggregates consumption from within the region. Cumbria helps to meet the needs of other parts of the region, but much of the shortfall is met from other regions; for example, quarries in Derbyshire and north Wales supply Greater Manchester, due to their proximity.
- 2.3 The MASS is undertaken through national, sub-national and local partners working together to deliver a steady and adequate supply of aggregates:
- at the local level, mineral planning authorities must prepare Local Aggregate Assessments, to assess the demand for and supply of aggregates in their area;
 - at the sub-national level, mineral planning authorities belong to and are supported by Aggregate Working Parties, who produce fit-for-purpose and comprehensive data on aggregates covering specific geographical areas;
 - at the national level, the National Aggregate Co-ordinating Group monitors the overall provision of aggregates in England.

Aggregates Working Party

- 2.4 Cumbria, including the Lake District National Park, is a member of the North West Aggregates Working Party (NW AWP) and constitutes one of the four sub-regions in the North West. Membership comprises each mineral planning authority in the NW, aggregate industry representation and the Marine Management Organisation; other relevant organisations may be invited to attend the AWP, such as the Environment Agency. Active membership of the AWP helps demonstrate compliance with the Duty to Co-operate, but is not sufficient in itself to fulfil the Duty.

2.5 The role of the AWP is three-fold:

- to consider, scrutinise and provide advice on the Local Aggregate Assessment of each mineral planning authority in its area;
- to provide an assessment on the position of overall demand and supply for the AWP area, including whether, in its view, the area is making a full contribution towards meeting both national and local aggregate needs. This assessment should be based on the constituent LAAs, informed by other economic data, and should also include an indication of emerging trends of demand in the AWP area;
- to obtain, collect and report on data on minerals activity in the AWP area; this includes annual data on sales, permissions and mineral reserves in their area, and data on recycled and secondary sources.

2.6 The mineral planning authority does not have to be bound by the advice of the AWP, but its views could be a material consideration in making decisions on individual planning applications, and should be taken into account in preparing mineral plans. This LAA has been prepared taking account of comments made by the NW AWP secretariat and its wider membership. Map 1 shows the NW AWP Local Authority members.

National Aggregate Co-ordinating Group

2.7 The purpose of this Group is to monitor the overall provision of aggregates in England, and to provide timely advice to Government and individual Aggregate Working Parties. Its specific activities include:

- monitoring annual reports produced by each AWP, with particular scrutiny of the landbank position;
- examining any significant difference between individual AWP reports and the relevant National and Sub-National Guideline figure, in order to understand the reason for such a difference and to decide whether it raises issues of concern about ensuring a steady and adequate provision of aggregates in England;
- providing guidance to Government on future National and Sub-National requirements for aggregates supply; this will include whether, and when, it needs to review National and Sub-National guidelines for aggregate provision in England.

2.8 The Government will continue to publish National and Sub-National Guidelines, because it still sees a role for forecasting the provision of aggregates in England, in order to deliver overarching policy objectives.

Landbanks

2.9 A key additional tool that underpins the working of the MASS is the aggregate landbank, which is principally a monitoring tool and the main basis for the mineral planning authority to consider whether to review their Local Plan.

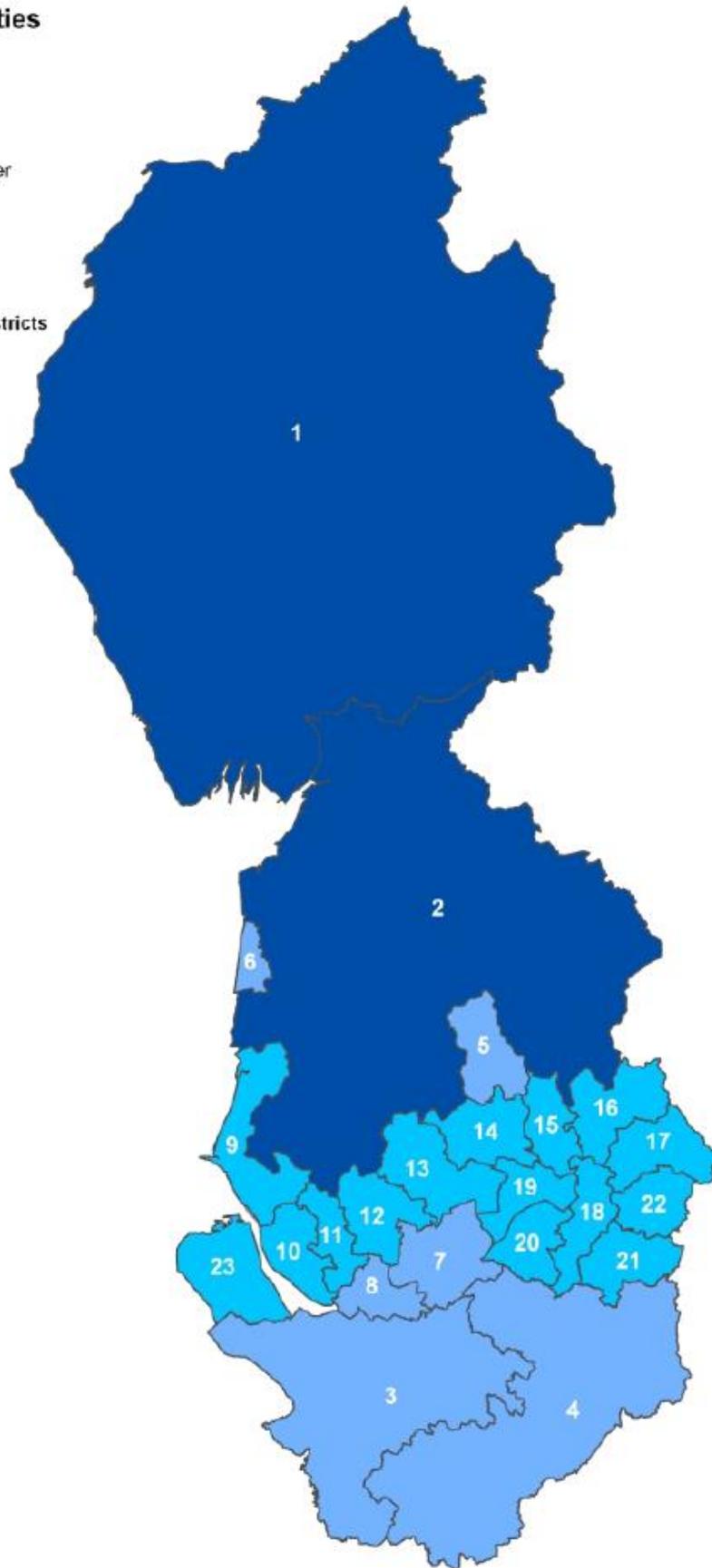
Map 1: North West Aggregate Working Party Authorities

Mineral Planning Authorities

- North West Counties**
 - 1 Cumbria
 - 2 Lancashire

- North West Unitaries**
 - 3 Cheshire West and Chester
 - 4 Cheshire East
 - 5 Blackburn with Darwen
 - 6 Blackpool
 - 7 Warrington
 - 8 Halton

- North West Metropolitan Districts**
 - 9 Sefton
 - 10 Liverpool
 - 11 Knowsley
 - 12 St Helens
 - 13 Wigan
 - 14 Bolton
 - 15 Bury
 - 16 Rochdale
 - 17 Oldham
 - 18 Manchester
 - 19 Salford
 - 20 Trafford
 - 21 Stockport
 - 22 Tameside
 - 23 Wirral



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- 2.10 Separate landbanks are required for two types of non-energy minerals¹; crushed rock (10 years) and sand and gravel (7 years). The difference in time periods is to some extent because these two types of aggregate serve different markets and have different site infrastructure requirements. For example, quarries producing crushed rock will need a longer security of reserves to justify capital investment in crushing equipment.
- 2.11 Calculation of landbanks should be undertaken annually. The length of a landbank is the sum in tonnes of all permitted reserves for which valid planning permissions are extant, divided by the annual rate of future demand, based on the latest annual Local Aggregate Assessment. Permitted reserves include currently non-working sites, but exclude those sites where mineral working cannot take place until there has been a review of the planning conditions attached to their planning permission.
- 2.12 Where there is a distinct market for a specific type or quality of aggregate (such as high specification aggregate used in road building, or sand used for concrete or asphalt), a separate landbank for that resource may be justified. This is because materials of different physical properties and quality are often needed to meet different end uses, and the scope to substitute one aggregate material for another can be limited. Due to their national significance, a separate landbank has been calculated for high specification aggregates in Cumbria, since separate records became available nine years ago.
- 2.13 The NPPF considers that the maintenance of landbanks should, as far as practicable, be from reserves outside National Parks, Areas of Outstanding Natural Beauty, World Heritage Sites, Scheduled Monuments and Conservation Areas.
- 2.14 Although there is a minimum landbank level set by Government, there is no maximum level, and each application for minerals extraction must be considered on its own merits, regardless of the length of the landbank. There are a number of reasons why an application for aggregate minerals development is brought forward in an area where an adequate landbank already exists. These could include:
- significant future increases in demand that can be forecast with reasonable certainty;
 - the location of the consented reserve is inappropriately located relative to the main market areas;
 - the nature, type and qualities of the aggregate, such as its suitability for a particular use within a distinct and separate market;
 - known constraints on the availability of consented reserves that might limit output over the plan period.

¹ construction and industrial minerals

3. Forecast of the Demand for Aggregates

- 3.1 The Local Aggregates Assessment is carried out annually, to assess the demand for and supply of aggregates in a mineral planning authority's area. The forecast of demand is just one of the elements of the LAA and is based on both the rolling average of 10-years sales data for each aggregate type, as well as other, relevant local information.
- 3.2 Local Aggregates Assessments can be prepared by individual mineral planning authorities or jointly with one or more other authorities. Guidance says that an authority should align itself with neighbouring and other authorities whom it considers appropriate, and not feel compelled to work within imposed geographical boundaries or former government office region boundaries.
- 3.3 This is the second Cumbria LAA, which has been prepared jointly by Cumbria County Council and the Lake District National Park Authority. Published information about sales and reserves for the quarries in the National Park cannot be separated from those for the county as a whole, so it makes sense to work together on the LAA.
- 3.4 As noted in paragraph 2.13, the NPPF recommends that the maintenance of landbanks for aggregates is from outside a range of landscape and historical designations. Cumbria contains, in whole or in part, two National Parks (Lake District; Yorkshire Dales) and three Areas of Outstanding Natural Beauty (Solway Firth; Arnside and Silverdale; North Pennines) - in total, these landscape designations cover 49% of the county. There is also a World Heritage Site (Frontiers of the Roman Empire: Hadrian's Wall) across the north of the county, around 580 Scheduled Ancient Monuments and just under 100 Conservation Areas, all outside of the Lake District National Park.
- 3.5 The landbanks that have been calculated for this LAA, do include reserves located in the Lake District National Park – for crushed rock used as aggregate from Shap Beck and Shap Blue quarries, which are both on the very edge of the Park. There are also landbank reserves located in two of the AONB's – at Sandside, Hartley and Helbeck quarries.
- 3.6 The landbanks do not include reserves located in that part of the Yorkshire Dales National Park that falls in Cumbria, primarily because there are no aggregate producing quarries in that area. It has, however, been necessary to take account of the high specification roadstone quarries located in the rest of the Yorkshire Dales National Park, as any reduced production from those quarries, could have an impact on the high specification roadstone quarries within Cumbria.

Context for demand

- 3.7 The National Planning Policy Framework introduces a pro-growth stance, encouraging economic, environmental and social progress via sustainable development. Development cannot be achieved without the necessary raw materials, i.e. minerals, and in particular, aggregates. Demand for development

and growth in Cumbria is coming from several sources, all of which are likely to require aggregates originating in the county.

- 3.8 At the national level, central Government has identified a number of road, rail, transport, flood defence and waste infrastructure projects that have started or will start in the 2014-15 financial year². Of these, five are located in Cumbria – four concern road pinch points and one is for flood defence. One North West project already underway is the M6 to Heysham link road, just over the border in Lancashire, for which at least one Cumbrian quarry is contracted to supply coated roadstone.
- 3.9 Government has also published a list of new, major renewables projects³, of which one is located in the county – Dong Energy offshore wind farm at Walney. There are many other infrastructure and renewables projects in the North West, and beyond, to which Cumbria may contribute its mineral resources.
- 3.10 At the sub-regional level, Cumbria's Local Enterprise Partnership (LEP) has published a strategic economic plan⁴. Its priority themes are:
- advanced manufacturing growth;
 - nuclear energy and excellence;
 - vibrant rural and visitor economy;
 - strategic connectivity of the M6 corridor.
- 3.11 In order to achieve these aims, intervention will be focused on four economic drivers, which include infrastructure improvements. They have identified 21 strategic growth sites across the county and intend to prioritise investment in the appropriate infrastructure to provide sustainable and resilient connections for businesses, their markets and workforces.
- 3.12 At the local level, the LEP will also give support to the six District Councils to deliver up to 30,000 new homes through their Local Plans. Carlisle City Council, Eden District Council and South Lakeland District Council have a combined housing requirement to deliver approximately 19,000 new homes by 2025.

10-year sales data

- 3.13 Each January, the annual monitoring survey is sent out to all minerals operators in Cumbria, requesting sales and reserves data for the previous calendar year. There are two survey forms – one for primary, land-won aggregates and one for secondary and recycled aggregates. For the 2013 calendar year, the survey asked for details on sales trends, location of markets and to what use the aggregates are put. It is intended that this data will form the basis of a much better understanding of local, regional and national markets, which in turn will inform the statutory Duty to

² Projected infrastructure starts and completions in 2014-15, HM Treasury, April 2014, <https://www.gov.uk/government/news/pm-and-chancellor-welcome-36-billion-infrastructure-projects>

³ Major new renewables projects, DECC, April 2014, <https://www.gov.uk/government/news/government-unveils-eight-major-new-renewables-projects-supporting-8500-green-jobs>

⁴ 'The Four Pronged Attack: Cumbria Strategic Economic Plan 2014-2024', Cumbria LEP, March 2014

Co-operate function, which the County Council and National Park Authority must undertake.

- 3.14 The data gathered on the survey forms is confidential and an officer is nominated to receive the data provided by the operators. Itemised sales and reserves figures are not reported – they are collated so that individual figures and quarries cannot be identified.
- 3.15 From the minerals survey for the 2013 calendar year, it can be seen that in Cumbria, including the Lake District National Park, permitted reserves of all **crushed rock** at the end of the year were 121.03 million tonnes (Mt) and the 10-year average annual sales were 3.38 Mt. This represents a **landbank of 35.78 years**, which would last until late-2049.
- 3.16 For land-won **sand and gravel**, permitted reserves at the end of 2013 were 9.89 Mt, 10-year annual average sales were 0.64 Mt, representing a **landbank of 15.50 years**, which would last until mid-2029.
- 3.17 For crushed rock, it is considered necessary to separate the high and very high specification roadstones from aggregates for general use. These aggregates are used in the building and maintenance of low-skid surfaces on roads, especially motorways, and have a national and regional market. It is not anticipated that the demand will fall in the near future. Due to the way sales were reported at the time, it is not yet possible to derive annual average sales for these special aggregates over a ten year period, but nine year figures can be used. This is not considered to alter the overall conclusions that can be drawn.
- 3.18 The reserves of the **high and very high specification roadstones** at the end of 2013 were 11.53 million tonnes, 9-year average sales were 0.64 million tonnes representing a **landbank of 18.02 years**, which would last until the end of 2031. Separate figures for these roadstones have only been available for nine years.
- 3.19 With regard to reserves of aggregates for more general use, on the basis of 10-year sales figures, **limestone** has a **landbank of 42.27 years**, which would last until early 2056. For **sandstone and igneous** rock, without the high and very high specification roadstones, the landbank is **27.19 years**, which would last until early 2041.
- 3.20 Table 2 in Appendix 1 and paragraphs 3.15 to 3.19 above, show that the landbanks for Cumbria comfortably exceed the minimum required by the NPPF – 10 years for crushed rock and 7 years for sand and gravel. With regard to the LDNPA and County Council Local Plan periods, 2025 and 2029 respectively, the expected end dates of the landbanks indicate healthy reserves for crushed rock, in particular for limestone. However, the end dates for high and very high specification aggregates, and also for sand and gravel, are just past the end of the County Council's Local Plan period (the relevant reserves are not situated in the National Park), so the situation will be monitored.
- 3.21 It is considered, however, that the calculation of the current landbanks based on the 10-year annual average sales figures, does not adequately reflect the impact that

the recession has had on sales of aggregates. As a consequence of the slow down for demand of aggregates, it seems most unlikely that the landbanks will only last for those estimated numbers of years, but will last longer. The DCLG guidance for local information includes the use of 3-year rolling average sales figures to identify short term trends in demand. That approach had already been adopted in the Cumbria Minerals and Waste Development Framework Core Strategy Policy 13: Supply of minerals.

3-year sales data

- 3.22 The 3-year rolling annual averages of sales 2011 to 2013 are 2.72 Mt/year crushed rock and 470,000 tonnes/year of land won sand and gravel. These are around 20% and 26% respectively lower than the 10-year average and represent landbanks of around 44 years for crushed rock and 21 years for sand and gravel. These would last until 2057 and 2034 respectively, beyond both Local Plan periods. The 3-year rolling average sales for high and very high specification aggregates alone, is 0.52 Mt, which is around 18% lower than the 9-year average, and represents a landbank of 22 years, to the end of 2035.
- 3.23 For the calendar year 2012, the 3-year rolling annual averages of sales (2010 to 2012) were also lower than their 10-year averages - 13% for crushed rock and 30% for sand and gravel. The 2012 3-year average for high and very specification aggregates alone was 15% lower than the 8-year average (the only available long term trend at that time). Comparing the figures from the 2012 and 2013 shorter term trends, it is considered that they do not yet indicate that there is any immediate need to provide further reserves of any type of aggregate.

National sales trends

- 3.24 The Mineral Products Association (MPA) state⁵ that there have been significant improvements in sales of mineral products since mid-2013; crushed rock was the fastest growing market (up 9%), whilst both asphalt and sand and gravel were up 4%. However, even with these growth trends, MPA says that markets would not regain pre-recession levels until after 2020. This is in line with evidence provided by the Competition Commission, who state that the demand for aggregates, cement and ready mix concrete declined by about a third over the period of the UK recession (2007 to 2009), and, although there was upturn during 2013, demand has still not recovered to its pre-recession levels⁶. In the context of this national picture, there is no evidence at the local, Cumbrian level that there are any problems with aggregates supply now or in the near future.

⁵ Mineral Products Association, press release 1 August 2014, <http://www.mineralproducts.org/14-release28.htm>

⁶ Aggregates, cement and ready mix concrete market investigation: Final Report, Competition Commission, 14 January 2014

Relevant local information

Major projects

- 3.25 The relevant local information that has to be considered in the LAA, includes broader spatial planning issues that could affect the need for mineral extraction; both the Britain's Energy Coast initiatives in west Cumbria and the work of the Local Enterprise Partnership (LEP), fall under this consideration.
- 3.26 Britain's Energy Coast (BEC) was established in 2009 with the mission of transforming West Cumbria into a diverse, resilient and low carbon economy. Originally funded by Government, BEC is now a public-private partnership whose membership includes the Nuclear Decommissioning Authority and the local councils. Building on existing strengths in the area, such as nuclear expertise and manufacturing skills, BEC provide businesses with the support and infrastructure they need to exploit opportunities in high-growth clean technologies, such as solar, wind and biofuels, as well as in the nuclear sector. Specific examples are nuclear new-build, nuclear decommissioning at the Sellafield complex and an anaerobic digestion plant, that could generate enough power for more than 2,000 homes.
- 3.27 The Cumbria LEP has drawn up multi-year Strategic Economic Plans, which identify economic growth investment priorities for Cumbria that will be supported by, amongst a range of funding, Local Growth Fund Resources. The LEP is investigating the opportunities at 21 sites across Cumbria, which include regeneration schemes at Barrow Waterfront, Whitehaven Town Centre and the Port of Workington; improvements to transport links and hubs; revival of the house building market; employment site improvements; and proposals for improved flood defence works.
- 3.28 Continuing dialogue with the County Council's Economic Development Team, the Lake District National Park Authority, the LEP, Britain's Energy Coast and with other organisations who facilitate development projects, will help to identify expected development peaks. It is considered that the lead-in times for any of these projects will be long enough to anticipate the necessary increase in aggregate production.

Markets

- 3.29 There are uncertainties about the locations of the markets that are served by the Cumbria quarries. Whilst Regional Aggregates Working Party reports indicated that 59% of sales of sand and gravel from Cumbria's quarries were within the North West Region and over 14% were to adjoining Regions and Scotland, just over a quarter of sales were to unknown destinations. By contrast, the reports indicate that 86% of crushed rock sales were within the North West. The three quarries in Cumbria that supply high and very high specification roadstones have a national market, but specific projects for which these minerals are used cannot always be easily identified. Further co-operation with both operators and adjoining regions will help to identify imports and exports in more detail.
- 3.30 Data gathered during the annual minerals survey, indicates that the majority of quarries in the county supply the local Cumbrian market or other, nearby areas of

the North West, especially Lancashire. Just over half of the quarries also supply to other regions, especially the North East, and just under a third also supply national markets, including Wales and Scotland. Much of the supply pattern is dictated by the location of operator-owned concrete, asphalt, steel and other processing plants. At least one operator exports their product to northern Europe, but this is not for aggregate use.

External influences

- 3.31 The relevant local information may also need to include the implications of policies for areas outside the Local Plan. For example, if the supply of non-energy minerals from within National Parks were to be restricted in future, as implied by NPPF paragraph 144, the greatest impact on Cumbria would be the loss of provision of high specification roadstones from the Yorkshire Dales National Park. Cumbria may be expected to take up the shortfall to the national market. YDNPA officers do not see this as a problem in the near future; several of their relevant quarries are intending to develop rail links and the operators would not invest in such expensive infrastructure without the aim of operating in the longer term. Continuing dialogue with YDNPA will keep this particular situation under review.
- 3.32 Policies for European Wildlife Sites could also lead to closures or constraints on quarries within or adjacent to them. An example of the latter is Force Garth dolerite quarry in Durham, which provides an exceptionally hard and durable roadstone aggregate. This quarry is viewed as an important component of Durham's aggregate supply network, but the majority of the permission is designated as part of the Moor House-Upper Teesdale Special Area of Conservation (SAC) and North Pennines Moors Special Protection Area (SPA). Determination of the quarry's periodic review has been delayed, as a separate assessment under the Conservation of the Habitats and Species Regulations 2010 is also needed. Durham County Council is not confident that the site will continue to operate as it has in the past.
- 3.33 It is difficult to see how the loss of, or reduced production from, quarries such as those discussed above, could be completely made up from less environmentally sensitive locations. Reports by the British Geological Survey have highlighted the issues that these matters raise on a national basis⁷.

Local Plans

- 3.34 The Local Plans that cover Cumbria provide local information that needs to be considered in the Local Aggregates Assessment, and that Assessment also needs to inform their preparation.

⁷ Aggregate resource alternatives: options for future aggregate minerals supply in England, Open Report OR/08/025 (www.bgs.ac.uk/downloads/start.cfm?id=1374); The need for indigenous aggregates production in England, Open Report OR/08/026 (www.bgs.ac.uk/downloads/start.cfm?id=1373); Managing aggregates supply in England: a review of the current system and future options, Open Report OR/08/042 (www.bgs.ac.uk/downloads/start.cfm?id=1372). British Geological Survey and Mineral Industry Research Organisation, 2008

- 3.35 The Lake District National Park Authority's Core Strategy (Local Plan Part One) was adopted in October 2010; the Allocations of Land (Local Plan Part Two) and Minerals Safeguarding Areas (Local Plan Part Three) were adopted in November 2013. These documents have a Plan period to 2025.
- 3.36 Cumbria County Council's Minerals and Waste Development Framework (MWDF) Core Strategy and Generic Development Control Policies were adopted in April 2009, with a Plan period of 2008 to 2020. The draft Minerals and Waste Local Plan (MWLP) was published for consultation in February to April 2013, with a Plan period of 2013 to 2028. This draft MWLP is currently being updated before another round of consultations is held, and the Plan period will be extended to 2029.

Operational quarries

- 3.37 There are 14 operating crushed rock quarries within Cumbria, providing limestone, igneous and sandstone rock. Two of these quarries, Shap Beck and Shap Blue, are partly within the Lake District National Park. In addition to producing aggregates, four of the limestone quarries supply industrial markets, mostly for burnt lime.
- 3.38 There are 11 operating sand and gravel quarries in Cumbria; none of these are within the Lake District National Park. There are sand and gravel deposits in the Park, but it is assumed that none are currently deemed commercially viable or they are situated in areas where extraction would not be compatible with the Park's purposes. However, in the LDNPA Local Plan Part Three, the sand and gravel resource is safeguarded by a Mineral Safeguarding Area (MSA).
- 3.39 There are 25 operating building stone quarries across the county. Eight of these quarries are located in the Lake District National Park, of which only one produces aggregate, as a by-product of slate working. The remaining building stone quarries are located outside the Park and, of these, eight produce aggregates from slate, sandstone and limestone.
- 3.40 The quarries are listed in Appendix 2, which also includes maps showing their location.

4. Aggregate Supply Options

- 4.1 Having undertaken a forecast of the demand for aggregates in Cumbria, the next step is to identify all aggregate supply options, as indicated by a range of data - landbanks, mineral site allocations in the two Local Plans and capacity data, e.g. marine licences for marine aggregate extraction, recycled aggregates production or the potential throughput of wharves. This analysis is informed by information from planning permissions/applications/pre-application talks, annual mineral surveys, liaison with the aggregate industry and with other bodies, such as the Local Enterprise Partnership.

Primary land-won aggregates

- 4.2 Land-won construction aggregates account for around 75 per cent of all minerals extracted from the UK land mass⁸. Depending on their geological source, primary aggregates have different properties or characteristics that dictate their end-use; important examples in Cumbria, are the two types of crushed rock that are used for surfacing motorways and main roads, because of their high or very high skid resistance properties.

Landbanks

- 4.3 The landbanks calculated for both crushed rock and land-won sand and gravel, are comfortably in excess of the minima that are required by national policy and also extend to, or beyond, the end of the two Local Plan periods (see Table 2 of Appendix 1).
- 4.4 The expiry dates of the planning permissions for the quarries (set out in Tables 5 to 9 in Appendix 2), may potentially have implications for the landbanks. However, case officers usually discuss issues such as permission end dates with operators, especially on site monitoring visits, and operators themselves, particularly the larger companies, have to plan ahead and usually enter in to pre-application talks in good time.

Pre-applications, applications and permissions

- 4.5 From the Tables in Appendix 2, it can be seen that four crushed rock quarry permissions will expire before 2029. Of these, **Moota** has submitted an application for a time and physical extension, which will result in the working of further reserves; **Holme Park** has asked for a scoping opinion on an extension of time only; **Sandside** is likely to do the same, but has not yet done so; **Shapfell** has submitted an application for a time extension and to deepen the quarry, which will also result in the working of further reserves. Permission for one of the roadstone quarries, **Ghyll Scaur**, which produces very high specification aggregate, will also expire before 2029. The operators of this site have submitted an application for both a time and physical extension, which will result in the working of further reserves.

⁸:Managing aggregates supply in England: A review of the current system and future options, British Geological Survey, 2008

- 4.6 The recent scoping opinion request for **Holme Park**, does not propose any deepening or lateral extension of the quarry, as it is located in a very sensitive area. A National Nature Reserve and SSSI lie in the centre of the quarry, and there are several surrounding Limestone Pavement Orders. **Sandside** Quarry is also situated in a constrained site, within the Arnsdale & Silverdale AONB, and it is unlikely that a lateral extension could be accommodated. The situation at both of these quarries will be monitored throughout the Plan period and the LAA updated, as necessary.
- 4.7 There may be issues with two other crushed rock quarries, which have the potential to impact on the landbank. Firstly, **Rowrah** Quarry, which is co-located with Eskett Quarry. The latter is almost worked out and the operator intends to move into Rowrah and begin to exploit its reserves. However, there is a substantial amount of water in the quarry and, if an environmentally acceptable solution for its dewatering is not found, the reserves could be lost. Secondly, **Kendal Fell** Quarry is the subject of a master-planning exercise, that could potentially sterilise its permitted reserves. The quarry has not been worked for around 20 years and the current owners are seeking an economically viable use that may not include prior extraction.
- 4.8 All of the sand and gravel quarry permissions will expire in or before 2029. **Bonnie Mount** is shortly to submit an application for a time and physical extension, which would access a small amount of further reserves; **Brocklewath** is a very small quarry that changed owner in November 2013, and the situation regarding future plans is unknown; **Cardewmires** has also recently been sold, and the new owners have confirmed their intention to apply for a physical extension in the future; **Faugh No.1** is currently mothballed, but has an active consent; **Faugh No.2** is very small scale, working towards restoration of the site and, unless progress is slower than expected, is unlikely to require a time extension; the current situation at both **High House** and **Overby** is one of steady progress, and there is an allocation in the draft Minerals & Waste Local Plan for an Area of Search between these two quarries for future expansion; progress at **Kirkhouse** is also steady; **Low Gelt** has been operating slower than expected, so it is quite likely that an application for a time extension will be submitted in due course; the permission for **Low Plains** expired in 2011, but whilst it is still the subject of an Appeal, the site continues to work; progress at **Peel Place** has also been slow, so pre-application talks for an extension of time have taken place; **Roosecote** was granted a physical and time extension (to 2029) in June 2014.
- 4.9 Of the building stone quarries that also provide some aggregate, there are six, located outside the National Park, whose permission will expire before 2029. Of these, there is steady progress at **Flinty Fell** and also at **West Brownrigg**; **Rooks** is worked on a campaign basis and extracts only about a quarter of its permitted reserves each year, so it is likely that an application for an extension of time will be submitted; **Scratchmill Scar** is likely to request a small physical extension in the future; **Snowhill No.1** has been granted permission to increase its annual production rate and so is likely to request an extension of time in the near future; **Snowhill No.2** is only worked on a campaign basis and it remains to be seen if a request for a time extension is forthcoming.

Allocations

4.10 Cumbria County Council's draft Minerals and Waste Local Plan, identifies the following Preferred Areas or Areas of Search:-

- high and very high specification roadstones
 - M16 Holmescales Quarry
 - M17 Ghyll Scaur Quarry
 - M30 Roan Edge Quarry
- limestone
 - M10 Silvertop Quarry
 - M33 Moota Quarry
- sand and gravel in the west and south of the county
 - M6 land between Overby and High House quarries
 - M8 Cardewmires Quarry
 - M12 Roosecote Quarry
 - M15 Peel Place Quarry
- slate
 - M14 Kirkby Slate Quarry

All of these quarries are shown on the maps in Appendix 2.

- 4.11 Although it is unlikely that it will be needed within the Plan period, the area between Overby and High House sand and gravel quarries (site M6 in the Plan) has been identified as a logical extension between the two existing quarries.
- 4.12 At Silvertop Quarry (site M10), it is possible that an alternative area for quarrying would have less impact on the setting of the Area of Outstanding Natural Beauty than part of the land within the current planning permission. An Area of Search has, therefore, been identified.
- 4.13 The draft Cumbria Local Plan also proposes Mineral Safeguarding Areas for resources of aggregates that have been identified on the maps produced by the British Geological Survey. The Lake District National Park proposes Minerals Safeguarding Areas for sand and gravel, limestone and igneous/metamorphic rock in their adopted Local Plan Part Three, but does not propose any site allocations.
- 4.14 NPPF paragraph 143 states that planning authorities should safeguard existing, planned and potential rail heads and wharfage in their Local Plans. At present, two potential rail heads have been identified in the draft Cumbria Local Plan. Site AL32 at Siddick, near Workington, was put forward originally as a rail head for a conveyor link to a coal extraction site. Although the coal extraction site is not an allocation, the rail head could still be used for other, economically viable, mineral or waste operations in the area. Site M31 at Salthouse, near Millom, is also identified. It was recently used as a temporary, night time, loading facility for Ghyll Scaur Quarry, in relation to projects at the Low Level Waste Repository near Drigg; it is retained in case it is needed in relation to projects for Britain's Energy Coast.

- 4.15 It is intended that a list of all existing rail heads will be added to the draft Cumbria Local Plan. The Lake District National Park do not have any rail heads, but two within the county serve Lake District quarries and these need to be safeguarded.
- 4.16 No wharves have been identified in the draft Cumbria Local Plan, but it is intended that a list for marine and riverine landings will be added to the Plan. There are no wharves in the Lake District National Park, as there is only a very small coastal section on their boundary.

Competition

- 4.17 One requirement of the NPPF is that mineral planning authorities should ensure that competition is not stifled by large landbanks of permitted reserves bound up in very few sites; by inference, this means landbanks held by few mineral companies. This has been made increasingly difficult by the succession of mergers and acquisitions within the minerals industry over the years, which have significantly reduced the number of mineral companies operating nationally. However, in Cumbria, the control of reserves is not limited to a very few sites or very few operators. This is not, therefore, a pressing concern, but the situation will be kept under review.

Marine dredged aggregates

- 4.18 Marine dredged aggregates are also considered to be primary aggregates. They account for around 20 per cent of the total supply of sand and gravel in England and Wales⁹ and, in 2010, accounted for 4.8 per cent of all UK aggregates supply¹⁰. There are no landbanks required for marine dredged aggregates.
- 4.19 Although seabed sand and gravels are widespread around the UK, many deposits are in deep water, are too thin to be commercially dredged or are dominated by unsuitable grain sizes (e.g. fine sand). Therefore, they are not suitable for construction aggregate use. The industry believes that the commercially viable resources of marine sand and gravel are sufficient to last for at least 50 years at the current rates of extraction¹¹.
- 4.20 The commercial rights to marine sand and gravel resources in the waters around the UK are held by The Crown Estate, which issues licences for prospecting and production. A licence for marine mineral extraction is also required from the Marine Management Organisation. Historically, the process to obtain a production licence could take up to ten years, but this has been simplified and now should not take more than three years. Licensing and capital outlay considerations in relation to the production of marine aggregates could create barriers to entry in the aggregates market.
- 4.21 In Cumbria, marine-dredged aggregates are landed at Barrow, principally taken from the large licensed area in Morecambe Bay, approximately twenty miles off the coast. Since 2004, around 10 to 25,000 tonnes/year of sand from this area have

⁹ Mineral Products Association website: www.mineralproducts.org/iss_key01.htm#

¹⁰ British Marine Aggregate Producers Association website: www.bmapa.org/about/key_facts.php

¹¹ The strategic importance of the marine aggregate industry to the UK, British Geological Survey, Open Report OR/07/019, 2007

been landed at Barrow docks. This is supplemented by the small amounts provided by channel maintenance activities at harbours, such as Workington and Maryport; these aggregates are often used very locally, as they are landed by a local operator. See Map 6 for landing points.

- 4.22 In 2013, 11,805 tonnes of marine dredged sand was landed at the Port of Barrow. This figure is slightly higher than the 2012 figure (9,831 tonnes), which had been showing a general decline in landings at Barrow; in 2011, the figure was 12,333 tonnes, in 2010, it was 15,592 tonnes, and in 2009, 23,111 tonnes. It is too early to tell whether or not the figure has risen because of increased demand or if this is simply a change due to the companies and their internal supply options.
- 4.23 The amounts of marine dredged aggregates that are landed in the north west have been falling over several years and have always been less than the authorised extraction rates. In 2013, the total marine aggregates extraction rate from all licensed areas off the coast of the north west was 369,201 tonnes. This is just over one third of the authorised extraction rate of 994,547 tonnes/year (see Table 3, Appendix 1 for full figures).
- 4.24 One of the key issues relating to reducing supply is poor demand; however, with the pressures on land resources, it is expected that marine aggregates will play an increasingly important role. This can be seen with the renewal for a 15 year period of the Hilbre Swash (off North Wales) licences at the start of 2014, and the future entry of a new company into Cumbria's marine marketplace, with Hanson Aggregates Marine Ltd being awarded a new Option and Exploration Agreement in the most recent tender round. If progressed, extraction could commence within five years.
- 4.25 There would appear, therefore, to be considerable potential to increase the substitution of marine dredged sand for that which is land-won. In recognition of this, Cumbria Minerals and Waste Development Framework Core Strategy Policy 15 states that planning permission will be granted for developments at appropriate locations that would enable increased use of marine dredged aggregates (subject to being environmentally acceptable). A similar policy is included in the draft Cumbria Minerals and Waste Local Plan.

Alternative aggregates

- 4.26 The term alternative aggregates is used to describe both secondary and recycled aggregates. Secondary aggregates are by-products of other mining or quarrying operations or of other industrial processes; recycled aggregates are produced by recycling construction, demolition, excavation and other wastes. There are no landbanks required for secondary or recycled aggregates.
- 4.27 Unprocessed feedstock for secondary and recycled aggregates is classified as 'waste'; therefore, the sites that process this waste into aggregates operate under waste management regulations, which are enforced by the Environment Agency (EA). Once processed, secondary and recycled aggregates are no longer classified as waste and are regulated by planning permission.

- 4.28 According to the Competition Commission, when a steady supply of secondary material is available, there are low barriers to entry into secondary aggregates production. Little capital investment is required; crushing, grading and sorting equipment can be leased; and securing planning permission is a much lower hurdle than in the case of primary aggregates. The Commission also say that there are low barriers to entry into recycled aggregates production, although the availability of materials to recycle (primarily from demolition and construction waste) could limit its production.
- 4.29 In Cumbria, important examples of secondary aggregates are slate waste and old blast furnace slag banks; important examples of recycled aggregates include railway track ballast.

Operational facilities

- 4.30 There are almost 20 main processing plants in Cumbria, producing alternative aggregates from quarry waste, recycled or reused materials (see Table 10, Appendix 2). They are situated in a variety of locations: aggregate quarries, building stone quarries, on industrial estates, railway land or at landfill sites. Few of the slate quarries, which are predominantly situated in the National Park, provide significant quantities of waste material that can be used for aggregates.
- 4.31 It has proved difficult to obtain information, in which there can be confidence, about the amounts of alternative aggregates that are produced. Figures obtained for the last three years have ranged from around 200,000 to over 800,000 tonnes/year (see Table 1, Appendix 1), but these are definitely underestimates. No realistic figures can be provided about reserves of alternative aggregates because they will only arise as the waste feedstock material becomes available.
- 4.32 The production and use of alternative aggregates, as a sustainable option to augment primary aggregates, will become an increasingly important element in the growth of Cumbria – whether for more housing or for wider economic development. Data on tonnages produced each year is, at present, sketchy, dependent upon figures held in the Environment Agency's Waste Data Interrogator and Environmental Permits or gleaned from the monitoring of planning permissions.
- 4.33 Both Cumbria County Council and the Lake District National Park Authority seek to record and monitor alternative aggregate arisings in the county and are considering if, in the future, it may be possible to provide targets. An alternative could be to place a condition on CD&E waste arising from demolition of buildings, roads, etc., but both authorities receive only one or two applications of this type each year. This situation will be kept under review.
- 4.34 The Mineral Products Association (MPA) has estimated that the proportion of aggregates supply accounted for by recycled and secondary aggregates has increased, and that this trend is expected to continue. Figures submitted to the Competition Commission¹² quoted an increase from 10% in 2000 to 28% in 2011. In connection with this trend, reference was made to various government initiatives

¹² Aggregates, cement and ready mix concrete market investigation: Final Report, Competition Commission, 14 January 2014

relating to sustainable housing and to the National Planning Policy Framework, which provide strong support for the development of secondary and recycled aggregates operations.

Allocations

- 4.35 The adopted Cumbria Minerals and Waste Development Framework Core Strategy, requires sites to be identified to ensure that at least a quarter of aggregate needs can be met by alternative aggregates. That policy is continued in the draft Cumbria Minerals and Waste Local Plan, which proposes that aggregate quarries, non-inert landfills and suitable industrial estates are appropriate locations for such facilities. A list of all operators will be included in future drafts of the Cumbria Minerals and Waste Local Plan; it is already in the Annual Monitoring Report.
- 4.36 The site at Derwent Howe slag bank (reference M24 in the MWLP) is identified as a Mineral Safeguarding Area (MSA) in the draft Cumbria Local Plan, as it is an important resource of secondary aggregates. In previous drafts of the Plan it was suggested that both Millom and Barrow slag banks, which are owned by the County Council, could be similarly safeguarded. At present, neither resource is likely to be accessible: Millom is now a Local Nature Reserve that also falls within the Duddon Estuary Special Protection Area and Ramsar, whilst Barrow is located adjacent to the same SPA and Ramsar, as well as the Morecambe Bay Special Area of Conservation. There are no such resources located in the Lake District National Park.
- 4.37 There is an MSA identified for slate in the draft Cumbria Local Plan. This is a fairly localised MSA, of the Wray formation, which encompasses Kirkby Slate Quarry, a producer of secondary aggregate. The LDNPA Local Plan also has an MSA for slate, which encompasses Elterwater Quarry, the other slate waste producer.
- 4.38 The draft Cumbria Local Plan currently identifies a building stone MSA, but this is localised around Birkhams Quarry, and does not encompass any secondary aggregate producing quarries. It is also likely that this MSA will be removed in the next draft of the Local Plan. The LDNPA Local Plan does not have an MSA for building stone.

Pre-applications, applications and permissions

- 4.39 Some of the sites listed in Table 10, Appendix 2, are permanent and run under an Environmental permit issued and monitored by the Environment Agency. The others are run under the conditions set out in their permissions, and some are tied to the life of other operations carried out at the site; for example, quarrying or landfill. The Table shows that nine out of twelve permissions will expire before the end of the Local Plan periods.
- 4.40 **Derwent Howe** slag bank was granted permission in 2014 to continue slag extraction and recycling of wastes until 2016. This is a short term permission to enable the operator to undertake further investigations of the site that may result in a future lateral extension. There are issues with coastal erosion, restoration and biodiversity at the site, which will need to be resolved.

- 4.41 It is expected that extensions of time to continue producing alternative aggregates will be submitted for **Goldmire**, **Rosecote** and **Silvertop** quarries, in due course, as well as at **Roan Edge** landfill and **Harry Barker Properties**. The situation at the building stone quarries (**Elterwater**, **Flinty Fell** and **Snowhill**) is less well understood, and will be linked to any time extensions submitted for quarrying.

5. Demand and Supply

- 5.1 Mineral Planning Authorities should carry out an assessment of the balance between demand for aggregates and their supply, exploring the economic and environmental opportunities and constraints that might influence that balance. It assesses whether there is a shortage or a surplus of supply and, if the former, how this is/will be addressed.

Supply patterns

- 5.2 The location and size of Cumbria, its dispersed settlement pattern and the layout of road and rail networks, have implications for how it meets its needs for minerals. Not only does the county as a whole tend to be self-sufficient, but there are also recognisable areas within the county, which have traditionally met their own needs from local sources.
- 5.3 As the maps in Appendix 2 show, the locations of Cumbria's quarries are not dispersed uniformly around the county, because of geology. There are very few hard rock quarries in the north of the county and only one sand and gravel quarry in the south.
- 5.4 To some extent, the old, traditional supply patterns of minerals within the county still exist. This pattern mainly arises from the small operators, often with a local niche market, but the rising cost of transport of minerals is also a contributory factor. It is more usual for the national, conglomerate or international companies to operate across a wider area, often sending their minerals to their own processing/production plants around the UK. It is hoped to gain a much clearer idea of supply patterns from the annual minerals survey, which will continue to ask operators about their markets.
- 5.5 Of the three crushed rock quarries that have specialised national and regional markets, Ghyll Scaur is the only operating quarry in England that produces very high skid resistance roadstones; Roan Edge and Holmescales produce high skid resistance ones. The extrusive igneous rocks that are quarried at Ghyll Scaur have very limited occurrence outside the Lake District National Park and North Pennines Area of Outstanding Natural Beauty.
- 5.6 Because of geology, other parts of the northwest and other parts of the country rely on supplies of aggregates from Cumbria. The county has traditionally supplied far more sand and gravel and crushed rock than it needs for its own use.

How much aggregate does Cumbria need?

- 5.7 The latest 4-year survey figures for England and Wales (2009), analysed by British Geological Survey¹³, show that the population of 55.24 million people 'consumed' 36.53 million tonnes of land-won sand and gravel and 71.82 million tonnes of crushed rock. Those figures equate to 0.66 tonnes/person of sand and gravel and 1.3 tonnes/person of crushed rock.

¹³ Collation of the results of the Aggregates Minerals Survey for England and Wales 2009, BGS, May 2011

- 5.8 Those 2009 figures were around 30% lower than the previous survey results in 2005. They mainly reflect the recession and cut backs in major infrastructure projects and in house building and other developments, but also reflect the changes in construction methods for road and house building. The results of the 2014 survey are unlikely to be released until 2015 at the earliest, and it will be interesting to see if that downward trend is levelling out or turning back up.
- 5.9 On the basis of the 2009 BGS figures, Cumbria, with a population of around half a million people, would need approximately 330,000 tonnes/year of land won sand and gravel and 650,000 tonnes/year of crushed rock. In that year, Cumbria's quarries sold 520,000 tonnes of sand and gravel and 3.07 million tonnes of crushed rock. In other words, over one and a half times as much sand and gravel and nearly five times as much crushed rock as it needed for its own use.
- 5.10 The initial conclusions of the Local Aggregates Assessment, are that additional provision would need to be made to maintain, throughout the whole of the plan period:-
- the minimum 7-year landbank (i.e. to 2036), for land won sand and gravel, based on 10-year average sales, and
 - the minimum 10-year landbank (i.e. to 2039) for high and very high skid resistance roadstones, based on 5-year average sales.

However, taking account of recent sales figures to calculate the 3-year averages, it would appear that additional provision for aggregates is not needed urgently.

- 5.11 Looking at both the 3-year rolling average sales figures and the 10-year figures, the size of the nationally important roadstones landbank¹⁴ would not fall below the required 10 year minimum of reserves before 2021. This situation will be kept under review.
- 5.12 For sand and gravel, the size of the landbank¹⁵ would also not fall below the 7 year reserves minimum before 2021. Again, this situation will be kept under review.
- 5.13 It is considered that, in principle, Preferred Areas and Areas of Search would be sufficient for any provision that needs to be made in the draft Cumbria Local Plan, and would ensure that the county landbanks could be maintained. The Lake District National Park's adopted Local Plan Part Three, does not identify Areas of Search or Preferred Areas. This situation will be kept under review.

Locational issues

- 5.14 The distribution of the quarry planning permissions, and the reserves in relation to the market areas that need to be served, is also relevant. The county's dispersed settlement pattern and its transport routes also have to be considered.

¹⁴ 11.53/0.52 Mt = 22.2 years; 11.53/0.64 = 18 years

¹⁵ 9.89/0.47 Mt = 21.0 years; 9.89/0.64 Mt = 15.5 years

- 5.15 The main locational issue is in the south of the county, where the only sand and gravel quarry is Roosecote, near Barrow-in-Furness. Although the quarry was recently granted a time extension until 2029, the owner of the land and the minerals is only prepared to grant licences for continued quarrying at Roosecote on a one year at a time basis. That is not considered to be appropriate for mineral planning and an alternative site needs to be identified to replace that quarry – thus site M12, opposite the existing quarry, has been identified in the draft Cumbria Local Plan as a Preferred Area. This is particularly important in terms of “mineral miles”, because the nearest alternative sources of sand and gravel are 40 miles away in Copeland or around 70 miles away in Eden, Carlisle and Lancashire.
- 5.16 In the west of the county, the only sand and gravel quarry is Peel Place, near Gosforth. That has limited reserves within its current planning permission and further provision needs to be made – thus site M15 is identified as an Area of Search in the draft Cumbria Local Plan.

Economic climate

- 5.17 There are no obvious indications at present that construction activity, and its consequent need for aggregates, will pick up rapidly. This situation will be monitored in the annual Local Aggregates Assessments, by using the rolling 3-year average of annual sales to identify signs of an upturn.
- 5.18 The possibility of Cumbria-specific increases in demand has already been mentioned in paragraphs 3.7 to 3.12. There is no commitment to some of those developments but, if they were to happen, their implications would be able to be anticipated in advance through the lead-in time for construction.
- 5.19 It is not considered that the implications of such possible major developments can be addressed in the Cumbria or LDNPA Local Plans at this time. The position with regard to them, and to any consequent need to review policies, will be addressed in the Annual Reports on the performance of the Plans.
- 5.20 The joint Cumbria LAA will be used as part of Evidence Base for the county’s two Local Plans.

APPENDICES

AGGREGATE SALES AND RESERVES

Table 1 - AGGREGATE SALES FROM CUMBRIA (million tonnes)

Survey year	Limestone	Sandstone and igneous	High spec roadstone (HSA)	All crushed rock	Sand and gravel	Marine dredged	Secondary and recycled aggregates
2001	3.0	1.1		4.1	0.7	0.03	
2002	2.9	1.1		4.0	0.9	0.04	
2003	2.6	1.1		3.7	1.0	0.04	
start of the period for 10-year averages							
2004	2.8	1.1		3.9	0.8	0.02	-
2005	2.6	0.36	0.74	3.7	0.7	0.02	-
2006	2.7	0.27	0.69	3.66	0.79	0.02	-
2007	2.8	0.53	0.70	4.03	0.87	0.01	-
2008	2.7	0.40	0.75	3.85	0.77	0.02	-
2009	1.91	0.38	0.78	3.07	0.52	0.02	-
2010	2.46	0.41	0.59	3.46	0.53	0.02	-
2011	1.84	0.37	0.60	2.81	0.46	0.012	0.294
2012	2.03	0.37	0.55	2.95	0.46	0.01	0.212
2013	1.62	0.37	0.41	2.4	0.48	0.012	0.823
3-year average	1.83	0.37	0.52	2.72	0.47	0.011	0.443
9-year average	-	0.38	0.64	-	-	-	-
10-year average	2.35	1.04 combined total sandstone, igneous, HSA		3.38	0.64	0.016	-

Table 2 - AGGREGATE RESERVES IN CUMBRIA AT END OF 2013

(The required minimum landbanks are: 7 years sand and gravel; 10 years crushed rock)

	Reserves (million tonnes)	Landbank (years) at 10-year average sales	End date of landbank
Limestone	99.17	42.27	early 2056
Sandstone and igneous - all	21.86	21.02	end of 2034
• of which high and very high specification roadstones (HSA) alone	11.53	18.02 <i>(using 9-year average sales)</i>	end of 2031
• sandstone and igneous without HSA	10.33	27.19 <i>(using 9-year average sales)</i>	early 2041
All crushed rock	121.03	35.78	late 2049
Land won sand and gravel	9.89	15.50	mid 2029

Table 3**MARINE DREDGED SAND LANDINGS IN THE NORTH WEST AT END OF 2013**

Area landed	Tonnes landed (actual)	Tonnes permitted
Barrow	11,805	-
Liverpool	303,696	-
Penrhyn	53,700	-
Totals	369,201	994,547

source: The Crown Estate, January 2014

Table 4**HISTORIC COMPARISON OF MARINE DREDGED LANDINGS AT BARROW**

YEAR	2009	2010	2011	2012	2013
Tonnes	23,111	15,592	12,333	9,831	11,805

source: The Crown Estate

DETAILS of CUMBRIA QUARRIES

Table 5 – CRUSHED ROCK QUARRIES

(see Map 2)

Location	Expiry date	Notes
Eskett and Rowrah	2034 30 September	Eskett almost worked out, considering options for moving into Rowrah (dormant)
Flusco	2032 31 December	also construction waste recycling to 31 Dec 2031
Goldmire	2042 21 February	also construction waste recycling to 31 Dec 2014
Hartley	2042 21 February	- site mothballed at the end of 2008 - ROMP conditions agreed 2013
Helbeck	2042 21 February	ROMP due in 2016
Holme Park	2023 31 December	scoping opinion on time extension submitted
Kendal Fell	2042 21 February	dormant
Moota	2016 31 December	time and physical extension submitted
Sandside	2020 30 June	potential for submission of time extension
Shap Beck #	2042 21 February	
Shap Blue #	2042 21 February	also deposit of mining waste on land east of the A6 to 31 December 2034
Shap Pink*	2042 21 February	- wholly within the National Park - mothballed and up for sale
Shap Fell (aka Hardendale)	2018 31 December	application for time extension and to deepen quarry submitted
Silvertop	2042 21 February	also construction waste recycling to 16 Dec 2018
Stainton	2042 21 February	
Tendley	2029 31 December	

The extraction areas for these two quarries are within the Lake District National Park

* Shap Pink Quarry is principally for dimension stone, but some quarry waste has been used for aggregates in the past

Map 2 - Crushed rock quarries



1:550000 at A4 size OS Grid Ref: NY3826 Scale 0 4 8 12 km Drawing Ref: Plan Created on: © Crown Copyright and Database Right September 2014. Ordnance Survey Licence Number 100019596.

Table 6 – SAND AND GRAVEL QUARRIES

(see Map 3)

Location	Expiry date	Notes
Bonnie Mount	2014 31 December	application for physical and time extension due for submission
Brocklewath	2021 31 August	changed owner November 2013
Cardewmires	2025 1 December	new owner confirmed future expansion plans
Faugh No.1	2024 30 June	- mothballed - recent permission for time extension
Faugh No.2	2022 31 December	
High House	2021 31 December	
Kirkhouse	2023 28 July	
Low Gelt	2019 31 December	potential for time extension to be submitted
Low Plains	2011 30 September	application for time extension to 2033 refused planning permission – await Appeal decision
Overby No.2	2026 31 December	
Peel Place	2015 26 April	application for time extension to be submitted 2014
Roosecote	2029 28 May	also construction waste recycling to 31 Aug 2016

Map 3 - Sand and gravel quarries



1:550000 at A4 size OS Grid Ref: NY3727 Scale 0 4 8 12 km Drawing Ref: Plan Created on: © Crown Copyright and Database Right September 2014. Ordnance Survey Licence Number 100019596.

Table 7
HIGH AND VERY HIGH SPECIFICATION ROADSTONE QUARRIES
 (see Map 4)

Location	Geology	Expiry date	Notes
Ghyll Scaur	igneous	2021 31 December	- Very High Specification Aggregate - time and physical extension submitted
Roan Edge	sandstone	2038 31 December	
Holmescales	sandstone	2042 21 February	- mothballed

Map 4 – High and very high specification roadstone quarries



1:550000 at A4 size OS Grid Ref: NY3726 Scale 0 4 8 12 km Drawing Ref: Plan Created on: © Crown Copyright and Database Right. September 2014. Ordnance Survey Licence Number 100019596.

Table 8
BUILDING STONE QUARRIES IN THE LAKE DISTRICT NATIONAL PARK
 (see Map 5)

Location	Geology	Expiry date	Notes
Brathay	slate	2018 31 March	- no aggregate production
Petts (aka Pets)	slate	2015 31 December	- no aggregate production
Broughton Moor	slate	2042 21 February	- no aggregate production
Bursting Stone (aka Coniston)	slate	2030 31 December	- no aggregate production
Elterwater (aka Lords)	slate	2042 21 February	- aggregate production
Low Brandy Crag (aka Brandy Crag)	slate	2026 30 November	- no aggregate production
Peatfield (aka Hodge Close)	slate	2018 31 October	- no aggregate production
High Fell (aka High Fellside or High Tilberthwaite)	slate	2024 31 March	- no aggregate production

Table 9
BUILDING STONE QUARRIES OUTSIDE THE NATIONAL PARK
 (see Map 5)

Location	Geology	Expiry date	Notes
Bank End	sandstone	2042 22 February	- dormant
Baycliff Haggs	limestone	2042 21 February	- off cuts used as primary aggregate
Birkhams	sandstone	2015 31 July	- pre-app discussions re time extension - no aggregate production
Blaze Fell	sandstone	2011 29 September	- awaiting restoration
Bowscar	sandstone	2042 21 February	- no aggregate production
Crag Nook	sandstone	2042 21 February	- no aggregate production
Flinty Fell	sandstone	2024 31 December	- waste used as secondary aggregate
Grange	sandstone	2016 29 January	- no aggregate production
Kirkby Slate	slate	2042 21 February	- application due to amend extraction area - waste used as secondary aggregate
Lambhill	sandstone	2021 30 January	- no aggregate production
Larchwood	sandstone	2007 30 September	- awaiting restoration
Leipsic	sandstone	2022 20 December	- no aggregate production
Mousegill	sandstone	2016 30 June	- no aggregate production
Pickering	limestone	2023 26 February	- no aggregate production
Red Rock Canyon	sandstone	2025 10 December	- no aggregate production
Rooks	limestone	2017 31 October	- off cuts used as primary aggregate
Scratchmill Scar	sandstone	2016 30 January	- off cuts used as primary aggregate
Snowhill no 1	limestone	2017 31 May	- waste used as secondary aggregate
Snowhill no 2	sandstone	2015 31 May	- waste used as secondary aggregate
Talkin Fell	sandstone	2011 3 February	- inactive
West Brownrigg	sandstone	2021 31 July	- off cuts used as primary aggregate

Map 5 - Building stone quarries



Table 10 – ALTERNATIVE AGGREGATES: MAIN PROCESSING FACILITIES
(see Map 6)

Facility	Material	Notes
Silvertop Quarry	inert construction waste	permission to 16 Dec 2018
Flusco Quarry	household, commercial, industrial and construction waste	EA permit permission to 31 Dec 2031 (tied to cessation of adjacent landfill)
Roosecote Quarry	construction materials	permission to 31 Aug 2016
Goldmire Quarry	construction and demolition waste	permission to 31 Dec 2014
Flinty Fell Quarry	building stone waste	permission to 31 Dec 2024
Snowhill No.1 Quarry	building stone waste	permission to 31 May 2017
Snowhill No.2 Quarry	building stone waste	permission to 31 May 2015
Kirkby Slate Quarry	slate waste	permission to 21 Feb 2042
Elterwater Quarry	slate waste	permission to 21 Feb 2042
Roan Edge landfill	inert wastes	permission to 1 Nov 2016
Hespin Wood landfill	secondary aggregates	EA permit permanent
Derwent Howe slag bank	slag extraction and recycling of wastes	permission to 31 Oct 2016
McKay Plant & Skip Hire, Lillyhall	construction and demolition waste	EA permit permanent Lillyhall Industrial Estate
Derwent Recycling Services, Lillyhall	builder's, household and commercial waste	permanent Lillyhall Industrial Estate
Phillip Carruthers Ltd, Lillyhall	concrete, rubble and bricks	EA permit permanent Lillyhall Industrial Estate
Harry Barker Properties Ltd, High Greenscoe	construction waste	permission to 1 Nov 2024
Kingmoor Marshalling yards	concrete rail sleepers and spent ballast	EA permit permanent

Map 6 – Alternative aggregates sites and marine dredged landing points



1:550000 at A4 size OS Grid Ref: NY3726 Scale 0 4 8 12 km Drawing Ref: Plan Created on: © Crown Copyright and Database Right September 2014. Ordnance Survey Licence Number 100019596.

APPENDIX 3

SUMMARY DETAILS OF AGGREGATE END-USE AND SUBSTITUTABILITY

1. This is a summary of information that the major aggregate companies provided to the Competition Commission's investigation into the aggregates, cement and ready mixed concrete market¹⁶ (<https://www.gov.uk/cma-cases/aggregates-cement-and-ready-mix-concrete-market-investigation>)
2. General construction, which is construction applications other than the production of ready mixed concrete, concrete blocks and asphalt, and is described as mostly sub-base and structural fill, accounts for around half of the aggregates used in GB. The main aggregates used for this are crushed rock (45 to 50%) and recycled and secondary aggregates (40 to 50%), with sand and gravel only a small proportion (5 to 10%).
3. Ready mixed concrete accounts for around 20% of aggregates used in GB. The main ones used are sand and gravel (60 to 65%) and crushed rock (25 to 30%). Use of recycled and secondary aggregates is low (5 to 15%).
4. The manufacture of concrete products accounts for around 10% of aggregates used in GB. The main aggregates used are sand and gravel (50 to 55%) and crushed rock (30 to 40%). Use of recycled and secondary aggregates is low (5 to 15%).
5. The manufacture of asphalt accounts for about 12% of aggregates used in GB. The main aggregate used is crushed rock (70 to 75%), sand and gravel accounts for 5 to 15%. Recycled and secondary aggregates account for around 10 to 20 %, but it seems likely a large proportion of this is recycled road planings with their high bitumen content.
6. The general conclusions with regard to substitutability suggested that:-
 - there is wide scope for using recycled and secondary aggregates for general construction in low specification applications;
 - there is little use of sand and gravel in general construction, even in regions where sand and gravel are prevalent;
 - for ready mixed concrete and concrete products, the use of sand and gravel or crushed rock appears to be largely influenced by geology and availability. Gravel or crushed rock can be used and the sand can be either that which occurs naturally, or it could be manufactured by washing crushed rock fines;
 - there is more limited scope for using recycled and secondary aggregates for other applications, such as ready mixed concrete and concrete block manufacture;
 - blends of primary and recycled and secondary aggregates can be used in several applications;
 - the use of secondary and recycled aggregates in ready mix concrete is limited by storage facilities for these additional mix ingredients.

¹⁶ Aggregates, cement and ready mix concrete market investigation: Final Report, Competition Commission, 14 January 2014