Herefordshire Council

HEREFORDSHIRE LOCAL AGGREGATES ASSESSMENT 2021

(Combined two-year monitoring period: Jan 2019 to Dec 2020)

Table 1: Herefordshire headline primary minerals indicators – 2019 & 2020 monitoring periods

		Sand & gravel (million tonnes)	Change from previous year	Crushed rock (million tonnes)	Change from previous year
Production	2019 sales	0.31	▲	Not available	-
	2020 sales	0.166	▼	Not available	-
	3 year sales average 2019	0.217	▲	Not available	-
	3 year sales average 2020	0.233	▲	Not available	-
	10 year sales average 2019	0.133	▲	Not available	-
	10 year sales average 2020	0.139	▲	Not available	-
Landbank	Reserves 2019	2.305	▼	Not available	-
	Reserves 2020	2.679	▲	Not available	-
	2019 Landbank (using 10 year sales average)	17.3	▼	Not available	-
	2020 Landbank (using 10 year sales average)	19.3	▲	Not available	-
	2019 Landbank (using 3 year sales average)	10.6	▼	Not available	
	2020 Landbank (using 3 year sales average)	12	▲	Not available	
	Minimum landbank required	7 years		10 years	
Informative		Two quarries are operational at the time of writing. Due to the openness of both operators, it is possible to understand a reasonable level of detail about reserves, supply and potential demand within Herefordshire.		There are two operational quarries, therefore the picture of Herefordshire crushed rock sales and permitted reserves cannot be published due to commercial sensitivities. This Local Aggregates Assessment provides proportionate estimates of sales, reserves and landbanks of crushed rock.	

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Executive Summary

Sand and gravel

- 2020 sales slumped to around half of what they were in 2019.
- In 2019 and 2020 the three and ten-year sales averages were up on previous years.
- Taking into account both the three and ten-year sales averages, the sand and gravel landbank stands above the seven years required by the National Planning Policy Framework (NPPF).
- Assessment of future demand indicates that there will be a need for additional reserves of sand and gravel to become operational before the end of the Minerals and Waste Local Plan (MWLP) period (2041). Whichever method of demand forecasting is used, the two currently active quarries must cease operations by 2029 and 2032, therefore provision is made in the emerging MWLP to address this and increase resilience, through the allocation of new sites and areas of search.

Crushed Rock

- Data on sales and reserves provided though the annual surveys cannot be published for reasons of commercial confidentiality.
- Herefordshire relies significantly on imports of crushed rock. Even if similar levels of reliance were to continue over the MWLP period (up to 2041), permitted reserves may not be sufficient to meet demand, due to restrictive planning conditions on permitted operations.
- If the county were to become self-sufficient in production, there are likely to be insufficient permitted reserves to meet demand over the plan period.
- There is likely to be a need for additional reserves of crushed rock to be permitted up to 2041. Allocations and areas of search are being developed through the emerging MWLP.

Recycled Aggregates

- Recycled aggregates could have an increasingly important role to play in reducing the reliance on imports of aggregates in Herefordshire in the future.
- Herefordshire produced recycled aggregate from the waste recovery facility at the Lugg Bridge facility near Hereford.
- During 2019 and 2020, Lugg Bridge sales amounted to below 50% of its permitted production capacity.

- Demand for recycled aggregate from waste is set to increase up to 2041.

- The Lugg Bridge facility is allocated in the emerging Minerals and Waste Local Plan (MWLP) for an extension to its operational capacity. Strategic employment sites, industrial estates and active mineral workings are also identified for additional waste recovery capacity to meet forecast demand.

1.0 Introduction

1.1.0 Minerals resources in Herefordshire are limited in range, primarily consisting of aggregates for use in construction and a small amount of building stone. Aggregates comprise sand and gravel, crushed rock and secondary or recycled materials gained from quarry waste operations.

1.1.1 Herefordshire is not a significant producer of minerals, with only a small number of operational quarries. With few operators in the sector, much of the data on sales is restricted for reasons of commercial confidentiality.

1.1.2 National policy guidance requires Herefordshire to maintain an adequate and steady supply of aggregates during the current plan period to 2031[1]. The West Midlands Aggregate Working Party (WMAWP) has agreed to use a ten-year rolling average as the principal indicator for aggregates production, together with an assessment of local information which may indicate that a different indicator of demand should be employed. This is consistent with national policy guidance.

1.1.3 The purpose of the LAA is to establish whether there is a shortage or surplus of supply and provides evidence for determining the level of provision of minerals aggregates to be made in Herefordshire's Minerals and Waste Local Plan.

1.1.4 The first section of the report considers the 2019 and 2020 monitoring periods' data on the supply (sales) of aggregates in Herefordshire. It then goes on to consider local information on development trends, to provide a forecast for demand and the future need for additional aggregate mineral resources. A summary of the 2019 and 2020 data is illustrated in the headline performance indicators for primary aggregates, in Table 1 above. The report finally considers a set of demand and supply indicators agreed by the WMAWP to be included within Local Aggregates Assessment as a means to assess any other factors which could affect supply and demand for aggregates.

[1] Herefordshire's Local Plan Core Strategy is in the process of being reviewed, with a revised end date of 2041. The emerging Minerals and Waste Local Plan will correspondingly have an end date of 2041.

2.0 Assessment of Aggregate Supply

2.1.0 Sand and Gravel

2.1.1 Throughout Herefordshire, there are superficial sedimentary deposits of glacial tills, sand and gravels. River deposits, found in the river valleys of the Wye, Lugg and Arrow, and glacial deposits, present in the north and west of Herefordshire, are the main areas where sand and gravel is found.

2.1.2 There are three permitted sand and gravel quarries in Herefordshire:

- Wellington Quarry
- Upper Lyde Quarry
- Shobdon Quarry (inactive)

2.1.3 Only Wellington and Upper Lyde[2] quarries were operational during 2019 and 2020. The openness of both operators allows a reasonable understanding of levels of sand and gravel reserves; their supply and potential demand within Herefordshire.

2.1.4 Shobdon Quarry has been worked in the past but has been inactive for several years. It is understood that the long term operator of the site has not renewed their lease (which expired at the end of December 2020) and it is likely that the landowner will seek to identify a new operator, since Shobdon Quarry has an estimated 911,000 tonnes of permitted reserves remaining, plus a proposed new allocation in the emerging Herefordshire Minerals and Waste Local Plan (MWLP).

2.1.5 **Sales**: the latest available data indicates that in 2019 sales of sand and gravel were 60% higher than that of the previous year and the highest recorded over the past ten years, at 0.31 mt. Supply was above both the three and ten-year rolling sales averages; see Table 2 below.

2.1.6 However, during 2020, sand and gravel sales fell back to levels more akin to those seen in 2017. It should be noted that production (and demand) during 2020 was significantly affected by restrictions imposed as a result of the Covid-19 pandemic, when many quarries and construction businesses paused operations.

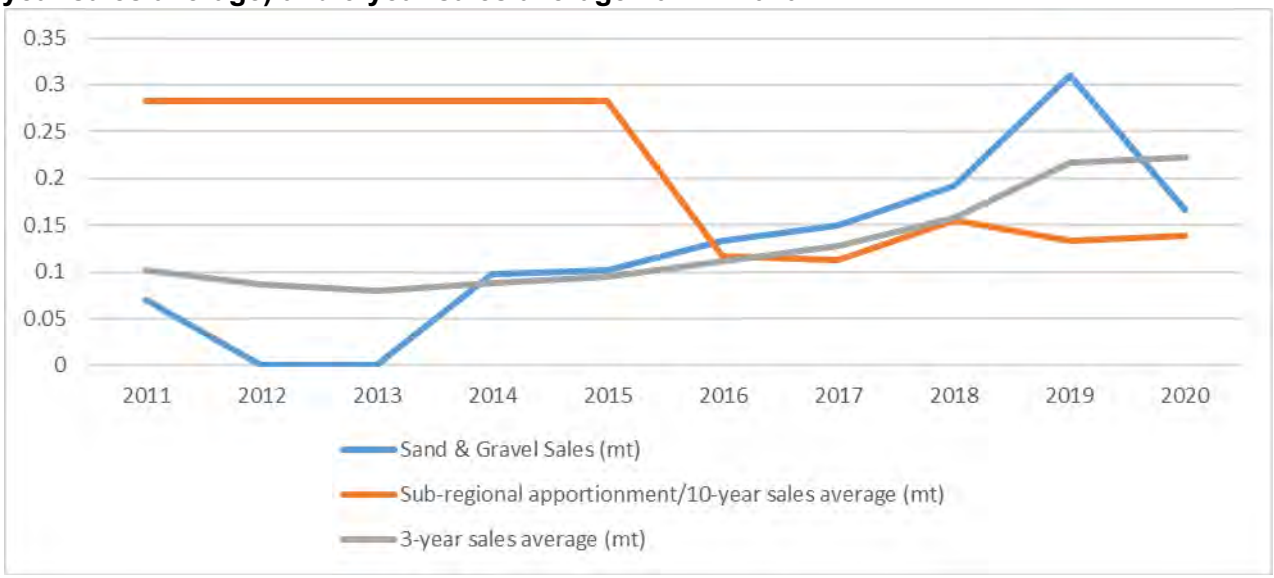
Table 2: Sand & gravel sales in Herefordshire 2011 – 2020

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	**10-year Average Sales (mt)**
Sand & gravel sales (mt)	0.07	0.081*	0.086*	0.098	0.102	0.133	0.15	0.192	0.31	0.166	**0.139**
* 2012 and 2013 datasets refer to figures extrapolated from combined data with Worcestershire.											

2.1.7 Figure 1 below shows the gradual upward trend of annual sand and gravel sales in Herefordshire over the past ten years. Note that from 2012, apportionment has been based on 10-year average of sales.

[2] Upper Lye Quarry commenced the working of minerals in September 2019.

Figure 1: Comparison of Herefordshire's sand and gravel sales, annual apportionment (10-year sales average) and 3-year sales average 2011 – 2020



2.1.8 **Sales destinations**: aggregates monitoring data indicates that the market area for sand and gravel produced in Herefordshire is predominantly local and it is all transported by road. Over the 2019 and 2020 monitoring periods, sales within Herefordshire account for 51% and 64% of the total respectively. Much of the sand and gravel produced in Herefordshire, which is transported outside the county is destined for the adjoining county of Worcestershire. Less than 5% is exported to the region's markets in the rest of the West Midlands, due to the availability of more proximate and higher quality materials in this area. Similar trends are expected to continue in the foreseeable future.

2.2.0 Crushed Rock

2.2.1 Significant outcrops of Silurian limestone can be found on the western side of the Malvern Hills and Ledbury, in the Woolhope Dome area to the east of Hereford and in the north-west of the county around Aymestrey, Leintwardine and towards the Welsh border near Presteigne.

2.2.2 **Sales and reserves**: there are only two producers of crushed rock in Herefordshire: Leinthall Quarry and Perton Quarry. Data for reserves and sales of crushed rock from quarries within the county therefore remains confidential. However, some information on general trends can be provided: sales were slightly lower in 2019 than in 2018, but increased in 2020 to slightly above 2018 levels.

2.2.3 For information: in the *Annual Reports of the West Midlands Aggregate Working Party,* key findings from the monitoring of sales and reserves of crushed rock in Herefordshire are combined with comparable data for Warwickshire, Worcestershire and Staffordshire, so that aggregated figures can be reported.

2.3.0 Secondary and Recycled Aggregates

2.3.1 Recycled aggregates are the product of processing inert construction and demolition waste, asphalt planings and used railway ballast into construction aggregates.

2.3.2 Secondary materials are derived from other industrial processes. This can include mineral extraction operations, such as sand and crushed rock material from ball clay and china clay production, or waste from slate production. Other sources of secondary materials include blast furnace and steel slags, incinerator bottom ash (IBA), furnace bottom ash (FBA), coal-derived fly ash (CDFA) and crushed glass sand.

2.3.3 The Mineral Products Association's *Profile of the UK Minerals Products Industry 2020 edition* states that recycled and secondary materials accounted for 28% of total aggregate supply in Great Britain in 2018. In its *Facts and Figures at a Glance 2018*, it is reported that nearly 19% of aggregate sales (in Great Britain) for construction uses are from recycled/secondary materials.

2.3.4 There are currently no industrial processes in Herefordshire which are known to produce secondary aggregates. There may be potential for some provision of secondary aggregates from existing quarrying operations; however there does not appear to be any current proposals for this activity. It is understood, from site visits, that some hard rock dust from quarries in Wales is used in concrete block manufacture within Herefordshire.

2.3.5 **Sales**: recycled aggregates are currently being produced within Herefordshire, principally at the CD&E waste recovery facility at the Lugg Bridge site. The facility is located on a worked out and restored sand and gravel quarry. It has permitted capacity to produce 250,000 tonnes of recycled aggregate.

2.3.6 **Table 3: Lugg Bridge recycled aggregate sales 2019 & 2020**

Recycled Product Sales	2019 (tonnes)	2020 (tonnes)
For aggregate uses		
• regular size/specification	40,363	24,492
• mixed size/specification	1,214	0
• for construction fill	32,369	28,961
• **Total**	**73,973**	**53,453**
For non-aggregate uses		
o landfill engineering/restoration	41,619	20,630
o soils	0	0
o **Total**	**41,619**	**20,630**
o		
o **Overall Total**	**115,592**	**74,083**

2.3.7 Production rates did not reach permitted capacity (250,000 tonnes) during either 2019 or 2020. Table 3 shows that the amount of recycled aggregate sold in 2020 fell by over 30% of that sold in 2019. The reasons for this are unknown, but the effects of Covid restrictions are likely to have had an impact on both the ability to produce the products and demand.

2.3.8 **Sales destinations**: All of the secondary aggregates produced at the Lugg Bridge site in 2019 and 2020 were sold to locations in the West Midlands and were transported by road.

3.0 Assessment of Forecasted Aggregate Demand

3.1.0 Sand & Gravel

3.1.1 **Consumption:** the Government's Aggregate Minerals (AM) Surveys provide data on imports and consumption of sand and gravel for the West Midlands region and its sub-regions, including Herefordshire. Table 4 reproduces this information.

Table 4: Herefordshire sales, principal destinations, imports and consumption of sand and gravel 2005, 2009, 2014 and 2019

Year	2005	2009	2014	2019
	tonnes			
Sales Destination				
Herefordshire	156,000	111,000	69,000	100,000
Elsewhere in West Midlands	49,000	5,000	24,000	50,000
Elsewhere	11,000	6,000	4,000	5,000
Unknown	19,000	0	0	0
Imports				
Land-won sand and gravel	121,000	63,000	83,000	153,000
Marine sand and gravel	12,000	4,000	1,000	1,000
Consumption				
Land-won sand and gravel	603,000	174,000	153,000	254,000
Marine sand and gravel	12,000	4,000	1,000	1,000

3.1.2 Over half (60%) of countywide consumption is met by imports of sand and gravel from outside the county and less than half (40%) is met by quarries located within Herefordshire. Imports are primarily from Staffordshire (20% to 30%) and Worcestershire (30% to 40%).

3.1.3 **Sand & Gravel Landbank**: the NPPF seeks a minimum landbank of seven years for sand and gravel provision. With permitted reserves in Herefordshire standing at 2.679 million tonnes in 2020 and a ten-year average annual sales figure of 0.139 million tonnes, this gives a landbank of 19.3 years for sand and gravel.

3.1.4 **Sand & Gravel forecast demand**: the Minerals Needs Assessment 2021 (web link) provides an in-depth assessment of demand for sand and gravel up to 2041, which is the end of the Minerals and Waste Local Plan (MWLP) period. It considers all of the following methods, which are most frequently used to estimate demand:

- Gross Value Added (GVA) forecasts;
- population projections;
- household or housing projections; and/or

- Core Strategy infrastructure requirements.

3.1.5 The various estimated forecasts for future sand & gravel demand are summarised in Table 5. The figures are calculated, based on the assumption that Herefordshire would continue to be reliant on imports of sand and gravel to meet 60% of its needs; a figure taken from the AMS 2019 (as more recent data becomes available, it will be incorporated into revised demand forecasting).

Table 5: Summary of sand and gravel forecast demand at 2041, assuming current level of import

Current level of import Scenario	Demand (tonnes)	Permitted reserve (tonnes)	Landbank	Tonnage required to maintain 7 year landbank
GVA growth (highest forecast)	284,000	0	0 years	4,030,000
Population growth, demand at 4.6 tonnes of aggregate per head	98,000	708,000	7.3 years	0
ONS household projections	154,000	0	0 years	2,353,000

3.1.6 **Impact of forecasted demand on sand and gravel landbank**: Depending on the forecast method used, there may be just sufficient permitted reserves of sand and gravel remaining for the lifetime of the MWLP (up to 2041), or there may be an insufficient landbank remaining at the end of the Plan period.

3.1.7 If Herefordshire was to be self-sufficient in sand and gravel, Table 6 shows that no forecast predicts a sufficient landbank for sand and gravel in 2041 if no new reserves are permitted. Table 6 indicates a wide range of between 3.9 and 12.8 million tonnes of new reserve required to enable self-sufficiency at 2041.

Table 6: Summary of sand and gravel forecast demand at 2041, assuming self-sufficiency in sand and gravel production

Self-sufficient Scenario	Demand (tonnes)	Permitted reserve (tonnes)	Landbank	Tonnage required to maintain 7 year landbank
GVA growth (highest forecast)	714,000	0	0 years	12,816,000
Population growth, demand at 4.6 tonnes of aggregate per head	246,000	0	0 years	3,935,000
ONS household projections	384,000	0	0 years	9,901,000

3.1.8 **Local context**: Wellington and Upper Lyde are the only two operational sand and gravel quarries in Herefordshire. Current planning conditions require that Wellington quarry is due to cease working by 2032 and Upper Lyde by 2029. Therefore, regardless of which demand forecast most closely represents the real outcome for sand and gravel over the lifetime of the MWLP, there will be a need for additional reserves of sand and gravel to become operational to meet demand from 2029 onwards.

3.1.9 **Local Minerals Planning Policies**: the emerging MWLP is seeking to enable Herefordshire to increase its level of self-sufficiency (not least to reduce the environmental burdens from transport) and to make a reasonable contribution to the Managed Aggregate Supply System. Allocations of resources are being proposed at three quarries, providing a minimum of nearly 3 million tonnes of sand and gravel. In addition, preferred areas of search for new workings are also identified, to add robustness to supply. Where the preferred locations can be demonstrated not to meet need, proposals for sand and gravel extraction outside these areas may be permitted.

3.2.0 Crushed Rock

3.2.1 Current information does not enable the same level of analysis to be undertaken for crushed rock, as for sand and gravel. There is generally a lack of data in relation to crushed rock within Herefordshire, for reasons of commercial confidentiality.

3.2.2 **Consumption**: in the absence of publishable data, it is difficult to make meaningful assessments of demand. However, the four/five-yearly Aggregate Minerals Surveys (produced by Government) provide data for imports and consumption of crushed rock for Herefordshire. See Table 7.

Table 7: Imports and consumption of crushed rock in Herefordshire

Monitoring period	2005	2009	2014	2019
	Million tonnes			
Import of crushed rock	1.522	0.421	0.533	0.284
Consumption of crushed rock	1.691	0.435	0.7	0.488

3.2.3 Consumption data shows that in the 2019 monitoring period, the consumption of crushed rock in Herefordshire was only a little higher than levels recorded ten years previously.

3.2.4 During the 2019 monitoring period, imports of crushed rock declined by around 47% from its 2014 levels and consumption by around 30%. This difference may indicate that Herefordshire's reliance on crushed rock from elsewhere has decreased, against a backdrop of fluctuating levels of consumption over the last 10 years.

3.2.5 Nevertheless, the data available indicates that Herefordshire remains a significant net importer of crushed rock (at 58% of the total consumed in 2019). It is mainly imported from Powys (20% to 30%) and Gloucestershire (10% to 20%). The need for mineral operators to obtain the correct specification for market products can dictate some of this movement, where such materials are not available from local deposits.

3.2.6 The primary export destination for crushed rock quarried in Herefordshire is the adjoining local authority of Worcestershire, which is known to have little crushed rock reserve.

3.2.7 **Landbank**: the NPPF seeks a minimum landbank of ten years for crushed rock provision. However, data on permitted reserves and sales cannot be published for reasons of maintaining commercial confidentiality. Therefore it is not possible to provide evidence on the landbank of crushed rock in Herefordshire.

3.2.8 The West Midlands AMR provides some aggregated data from a number of minerals planning authorities on landbanks and permitted reserves, however, this is not considered to be particularly useful when attempting to make a reasonably accurate assessment of the local Herefordshire context.

3.2.9 During 2019 and 2020, no planning applications for the quarrying of additional crushed rock resources were submitted within Herefordshire.

.2.10 **Forecast demand**: the Mineral Needs Assessment 2021 (web link), which is part of the evidence base for the emerging MWLP, considers two methods for forecasting potential future demand. These have produced widely varying forecasts for 2019-2041. Calculations have been made for two different scenarios, on the basis of: whether Herefordshire continues to rely on imports of crushed rock to meet 58% of its needs; and Herefordshire being self-sufficient in crushed rock production.

3.2.11 **Table 8: Summary of crushed rock forecast demand at 2041, assuming current level of import and self-sufficiency**

Scenario	**Demand 2019 - 2041**	
	Assuming imports at current level (76%) (tonnes)	Assuming Self-sufficiency (tonnes)
Population growth, demand at 4.6 tonnes of aggregate per head	4,016,000	9,563,000
ONS household projections	7,900,000	18,810,000

3.2.12 Table 8 shows that demand for crushed rock could exceed even the 11.54 million tonnes of permitted reserves data for 2013, the most recent year for which figures were available for Herefordshire separately from other counties.

3.2.13 It is acknowledged that these outcomes are not accurate, as they rely on a number of assumptions and on limited and dated information. However, without being able to publish up to date information due to commercial sensitivities, demand forecasting of crushed rock in Herefordshire will remain imprecise.

3.2.14 **Local context**: it is understood (from site visits undertaken towards the end of 2017, as part of the development of the Herefordshire MWLP), that both of the two active crushed rock quarries in the county are substantially worked out and both operators have advised that extensions would be required in the foreseeable future, in order to continue to extract limestone. In addition, planning conditions for Leinthall Quarry require the winning and working of minerals to cease by August 2027, therefore it is likely that additional reserves

of crushed rock will be needed to meet demand from 2027 onwards. Perton has planning permission to continue operations until 2042.

3.2.15 Therefore, regardless of which demand forecast most closely represents the real outcome for crushed rock over the lifetime of the MWLP there will likely be a need for additional reserves of sand and gravel to become operational to meet demand from 2027 onwards.

3.2.16 **Local minerals planning policies**: the emerging Herefordshire MWLP allocates specific sites for future mineral extraction at Leinthall and Perton quarries, which would provide around 9 million tonnes of crushed rock. In addition, preferred areas for limestone working are identified. New operations in these areas would add to the robustness of supply in Herefordshire, increase self-sufficiency and allow for the county to make a reasonable contribution to the Managed Aggregate Supply System.

3.3.0 Secondary/Recycled Aggregates

3.3.1 **Forecast demand**: the Waste Needs Assessment (WNA) 2021, which has been produced as evidence supporting the production of the emerging Herefordshire Minerals and Waste Local Plan (web link) produced forecasts for arisings of construction, demolition and excavation (CD&E) waste in Herefordshire, based on the forecast change in GVA for the construction sector in Herefordshire, produced by Experian. These are based on:

a) Scenario 1b: growth based on Herefordshire and Worcestershire construction sector GVA growth and a baseline figure of 392,000 tonnes in 2018 (calculated as per capita arisings using an UK per capita multiplier); and

b) Scenario 2b: growth based on Herefordshire and Worcestershire construction sector GVA growth and a baseline figure of 405,000 tonnes in 2018 (calculated as per capita arisings using an England waste per capita multiplier).

3.3.2 The forecasts are broken down into the key elements of the CD&E waste stream (non-hazardous construction and demolition waste, hazardous construction and demolition waste and dredging and excavation spoils) based on relative proportions estimated in 2018 and assuming that these remain constant. In this way, two forecasts for arisings of non-hazardous construction and demolition waste have been made, this being the particular element of the CD&E waste stream likely to be the source of recycled aggregates.

3.3.3 However, not necessarily all of the arisings will be recovered for recycling. The latest figures from Defra[3] show that 93.8% of non-hazardous construction and demolition waste was recovered in England in 2018 and 92.3% for the UK as a whole. Therefore, in considering this data for minerals purposes, the arisings forecast have been reduced in accordance with these rates and are shown in Table 9 below.

[3] Statistics on Waste Notice: Non-Hazardous Construction and Demolition Waste UK and England 2010-2016, Defra, March 2019

Table 9: Forecast arisings of recovered non-hazardous construction and demolition waste, Herefordshire, 2018 to 2041

Year	Using a UK per capita multiplier	Using and England per capita multiplier
2018	178,139	195,104
2019	172,601	188,538
2020	138,450	151,956
2021	157,833	172,592
2022	163,371	179,158
2023	165,217	181,034
2024	167,063	182,910
2025	169,832	185,724
2026	173,524	190,414
2027	177,216	194,166
2028	180,908	198,856
2029	185,523	202,608
2030	189,215	207,298
2031	192,907	211,050
2032	197,522	215,740
2033	201,214	220,430
2034	205,829	225,120
2035	209,521	229,810
2036	214,136	234,500
2037	218,751	240,128
2038	223,366	244,818
2039	227,981	249,508
2040	232,596	255,136
2041	238,134	260,764

3.3.4 The forecasts indicate that up to 261,000 tonnes of recycled aggregates could be gained from non-hazardous construction and demolition waste in Herefordshire by 2041.

3.3.5 It is considered, in the emerging MWLP, that the former Lugg Bridge Quarry waste recycling site has the potential for a substantial increase in capacity (from 250,000) over the Plan period up to 2041, by way of an extension. Therefore, this is identified as the preferred location for additional CD&E waste recovery followed, in order of preference, by strategic employment areas and industrial estates, and active minerals workings (recognising that the lifetime of the waste treatment facility may be limited to the lifetime of the quarry).

4.0 Assessment of Other Demand/Supply Indicators

4.1.0 Purpose and Scope

4.1.1 The WMAWP has agreed a set of indicators to be included in Local Aggregates Assessments which are intended to provide additional contextual information about local factors which could affect the supply of and demand for aggregates. The purpose is to highlight any information which could be a reason for departing from the use of the 10 year sales averages for sand and gravel and crushed rock.

4.1.2 The scope of the indicators covers the following fourteen subjects and recommended method of collecting relevant data.

Table 10: Additional demand/supply indicators

1	Gross housing completions (refer to MHCLG live tables on housing supply), compared with housing targets	Set over the past 10 years, or a shorter time period. Targets from up to date local plan and/or Government's standard methodology
2	Employment land completions, compared with requirements	Strategic local plan employment allocations only. Info from AMRs or Employment Land Reviews. Timeline: over local plan period to date.
3	Large scale local infrastructure requirements compared with delivery (refer to local strategic Plans and National Highways website)	e.g. new roadbuilding. Check local development plans, LEPs, local transport plans etc.
4	NSIPs and other major projects (refer to National Infrastructure Planning website)	Either in mineral planning authority area or nearby e.g. HS2 or Commonwealth Games Note that developers should be encouraged to provide materials audits which could be used to predict "significant future increases in demand that can be forecast with reasonable certainty" (refer to PPG)
5	3-year aggregate sales average	Caveat: Although this indicator may give figures for most recent sales, it may include unnatural fluctuations or major anomalies (e.g. due to Covid) and therefore may not be relied upon in such instances
6	Sub-regional apportionment figures	Useful for comparison and context
7	Quality and/ or capacity constraints of existing permitted reserves	Compare data for the overall potential permitted capacity of sites with the level of provision made in the MLP and/ or with current 10 years sales average. Consider

		projection of comparison over next 10 years or over remaining period of 'time horizon' of MLP.
8	Windfall minerals permissions/trends	Could high levels of windfall permissions mean that these sites should have been included in local plan allocations? Or, could this indicate that the minerals industry prefers to bring sites forward through planning applications, rather than through the local development plan process?
9	Progressive exhaustion of permitted reserves over Plan period and permitted lifespans of productive sites.	a) Compare sales against data on the number of operational sites and new permitted reserves (assess replenishment rates). b) Record the number of sites that have ceased production of aggregates and comment on reasons for cessation if possible. c) Record cessation dates for mineral production at permitted sites. d) Highlight sites where the MLP includes allocations for the extension of existing sites and the potential duration of continued production from allocated sites.
10	Transport constraints affecting markets for aggregates	e.g. lack of rail freight opportunities Note output restrictions on permitted sites (number of lorry movements/ tonnages).
11	Levels of imports and exports	Data is not always complete/reliable. Review data from AM Survey 2019 and compare with AM 2014
12	Limited geological reserves	Generalised; not specific to particular permitted quarry operations Note LUC study for previous regional apportionment which considered the extent of aggregate resources and its constraint by international/ national designations for the environment or culture.
13	Local plan allocations	See d) for 9 above.
14	Contribution from alternative aggregates	Record permissions for: New / extended waste facilities with capacity for producing recycled aggregate. New/ extended facilities for producing secondary aggregate from industrial by products. Permissions for major development involving redevelopment of previously developed land involving demolition/ land clearance works.

4.2.0 Findings and Conclusions

4.2.1 Data and other information has been collected to populate the fourteen indicators. The detailed information is set out in the appendix to this document.

4.2.2 Assessment of the data leads to the following findings:

- There is insufficient time series data on housing completions to draw any reliable conclusions, while information on employment land completions and large-scale infrastructure projects shows no significant demand is anticipated.

- The three year sales averages for sand and gravel in 2019 and 2020 are 63% and 68% higher than the ten year sales averages. However, the Mineral Needs Assessment 2021 shows that sales of sand and gravel have fluctuated up and down over past years, and so there is no certainty that the three year averages represent a recent change in trend that can be expected to continue.

- The sub-regional apportionment figures show higher expectations for Herefordshire than has been achieved in recent years and therefore it is not considered prudent to accord them significant weight.

- All existing permitted sites are required to cease operations before the end of the MWLP, therefore there is a known need to allocate new sites or extensions in the MWLP. No windfalls have been permitted in recent years and no new reserves permitted since 2019.

- Levels of imports and exports of sand and gravel and crushed rock have changed slightly between 2014 and 2019. Exports of sand and gravel have decreased by up to 20% and imports have increased by up to 10%, indicating that consumption has increased in the five year period (see also table 4). Exports of crushed rock have decreased by up to 10% while imports have also decreased by up to 30%, suggesting a fall in consumption (see table 4). However, given the fluctuations in consumption shown in table 4 for both sand and gravel and crushed rock, it is not considered that this indicator shows a reliable long-term trend in supply and demand.

- Geological reserves within Herefordshire do not appear to be significantly constrained by international/national designations.

- Herefordshire has no supply of secondary aggregates. While the capacity for recycled aggregate production is likely to increase through the MWLP, supply in recent years has been well below current capacity and therefore cannot reliably be expected to provide a significantly increased quantity to substitute for primary aggregates.

4.2.2 The conclusion is drawn from the above assessment and the detailed data in the appendix that there is no information on the local context that would clearly justify departing from the use of a ten year average for estimating the supply of and demand for aggregates.

Herefordshire Council

Appendix – Demand/Supply Forecasting Indicators

1	Gross housing completions (refer to MHCLG live tables on housing supply), compared with housing targets	Set over the past 10 years, or a shorter time period. Targets from up to date local plan and/or Government's standard methodology	Demand indicator	Targets		Completions		
				Year	Core Strategy housing trajectory	**Year**	MHCLG	AMRs
						2006-07	550	840
						2007-08	470	829
						2008-09	510	689
						2009-10		547
						2010-11		547
						2011-12	260	341
						2012-13	160	201
						2013-14	280	331
						2014-15	310	774
						2015-16	250	327
				2016	980	**2016-17**	190	405
				2017	1177	**2017-18**	360	776
				2018	1102	**2018-19**	740	666
				2019	844	**2019-20**	630	904
				2020	751	**2020-21**	550	643
				2021	820			
				2022	908			
				2023	985			
				2024	920			
				2025	1013			
				2026	971			
				2027	983			
				2028	905			
				2029	955			
				2030	943			

2	Employment land completions, compared with requirements	Strategic local plan employment allocations only. Info from AMRs or Employment Land Reviews. Timeline: over local plan period to date.	Demand indicator	Core Strategy target is provision of 148 Ha of employment land over 20 years, with 37 ha of deliverable employment land at all times. New employment land delivered in the plan period so far 2011-2015 covers 21.35ha Planning permissions between 2015 and 2017 added a further 8.2ha. Between 2017 and 2021 almost 27ha of employment land proposals were completed. As of April 2021 some 7.8ha of employment land had planning permission.
3	Large scale local infrastructure requirements compared with delivery (refer to local strategic Plans and National Highways website)	e.g. new roadbuilding. Check local development plans, LEPs, local transport plans etc.	Demand indicator	The Core Strategy AMR contains the following two strategic developments: • Provision of Southern link and river crossing by 2022. A decision was taken in February 2021 to stop work on progressing the Southern link road and Hereford Bypass. The BBC reported that Herefordshire Council will instead explore the possibility of a new road linking Rotherwas to the A438 Ledbury Road east of the city. A review came up with six different proposals including the western bypass, but councillors asked the authority's leaders to abandon it and also reject other major road schemes. • ESG Link Road. The road is now complete. The LTP Progress Report 2016-2018 identified three key transport packages which contain the transport improvements to support growth. Each package comprises new highway infrastructure, alongside measures which will support walking, cycling, and public transport particularly for shorter trips. • The completion of the Hereford City Link road, December 2017. The scheme has also provided the opportunity to progress the next round of improvements identified in the central area package including a transport hub at the rail station, public realm and access improvements

				along the inner ring road, continuing the excellent upgrade to Newmarket Street/Widemarsh Gate and further rationalisation of parking to provide for visitors and longer distance commuters. • The South Wye Transport Package (SWTP) comprises the Hereford Southern Link Road (SLR) and active travel measures south of the River Wye, coordinating with access improvements of the Enterprise Zone. The SLR scheme has now been abandoned. • During 2017, the Enterprise Zone reviewed its forward programme of capital schemes and has earmarked £600k to constructing a continuous, off-road cycle route along the Straight Mile. This scheme will complement the proposals being considered within the SWTP. In 2017/18 the council successfully bid for £5m from the DfT's Highway Maintenance Challenge Fund (including £3m of local match funding). The funding was used to improve economic performance through highway maintenance on routes to Herefordshire's Enterprise Zone and included improvements to 25.5 miles of carriageways through resurfacing, 12.4 miles of surface dressing and one mile of carriageway reconstruction works. The following routes were included: A465 Hereford to South Wales, A438 to mid-Wales and A4103 to Worcestershire. The first phase of this work was delivered in 2017/18 meeting the DfT's spend requirements in full. The project is programmed for completion during 2018 and 2019. In 2017, Herefordshire Council in partnership with The Marches Local Enterprise Partnership, the Growing Mid Wales Partnership, the Welsh Government, Ceredigion, Gwynedd, Powys, Shropshire and Telford and Wrekin Councils, developed and adopted a Freight Strategy for the region. The strategy identifies the Hereford bypass, Southern Link Road, and the Leominster bypass as major schemes which will reduce the impact of bottlenecks on the Freight Route Network (FRN).

4	NSIPs and other major projects (refer to National Infrastructure Planning website)	Either in mineral planning authority area or nearby e.g. HS2 or Commonwealth Games Note that developers should be encouraged to provide materials audits which could be used to predict "significant future increases in demand that can be forecast with reasonable certainty" (refer to PPG)	Demand indicator	None
5	3-year aggregate sales average	Caveat: Although this indicator may give figures for most recent sales, it may include unnatural fluctuations or major anomalies (e.g. due to Covid) and therefore may not be relied upon in such instances	Demand indicator	Sand and gravel: 0.233mt Crushed rock: Not available
6	Sub-regional apportionment figures	Useful for comparison and context	Demand indicator	From 2019 LAA: Sub-regional apportionments were produced to cover the period 2001-2016 and updated for the period 2005-2020 and set out the level of provision which should be made by each region. An annual "sub-regional apportionment" was derived from the 2001-2016 Guidelines, and for Herefordshire, this was 0.283mt of sand and gravel. No sub-regional apportionment based on the 2005-2020 Guidelines has been agreed. It is notable that the former sub-regional apportionment figure is 34% higher than the 2018 sales figure and this level of production has not been achieved in Herefordshire in the last 10 years. It is generally considered that, because the national apportionment guidelines were based on production before the recession and within a different policy context, it is not prudent to accord them significant weight. Therefore, it would not be

				appropriate to increase the production guideline in this LAA above the ten-year average on the basis of the national and regional guidelines or the sub-regional apportionment.
7	Quality and/ or capacity constraints of existing permitted reserves	Compare data for the overall potential permitted capacity of sites with the level of provision made in the MLP and/ or with current 10 years sales average. Consider projection of comparison over next 10 years or over remaining period of 'time horizon' of MLP.	Supply indicator	Reserves and date to cease Wellington: 1,184,000, 17/10/18 Upper Lyde: 210,000, 31/12/24 Shobdon: 911,000, no date Perton: not available, 31/12/30 Leinthall: not available, 10/8/27 Nash: 4,900,000, 12/8/26 All operations required to cease before 2041
8	Windfall minerals permissions/trends	Could high levels of windfall permissions mean that these sites should have been included in local plan allocations? Or, could this indicate that the minerals industry prefers to bring sites forward though planning applications, rather than through the local development plan process?	Supply indicator	None
9	Progressive exhaustion of permitted reserves over Plan period and permitted lifespans of productive sites.	e) Compare sales against data on the number of operational sites and new permitted reserves (assess replenishment rates). f) Record the number of sites that have ceased production of aggregates and comment on reasons for cessation if possible.	Supply indicator	a) No new permitted reserves since Upper Lyde gained permission (2019) b) None c) Cessation dates Wellington 31/12/26 Upper Lyde 30/9/29 Shobdon no date

<table>
<tr><td></td><td></td><td>g) Record cessation dates for mineral production at permitted sites.
h) Highlight sites where the MLP includes allocations for the extension of existing sites and the potential duration of continued production from allocated sites.</td><td></td><td>Perton 31/12/30
Leinthall 31/8/27
Nash 12/8/26
d) Extensions
Leinthall and Perton extensions would provide around 9mt additional
Upper Lyde, Shobdon and Wellington extensions would provide nearly 3mt additional
Potential duration of continued production unknown</td></tr>
<tr><td>10</td><td>Transport constraints affecting markets for aggregates</td><td>e.g. lack of rail freight opportunities
Note output restrictions on permitted sites (number of lorry movements/ tonnages).</td><td>Supply indicator</td><td>Most mineral from, to and within Herefordshire is transported by road. There is one rail siding at Wellington Quarry which is used to transport mineral to South East England, mainly from quarries in Wales. No other alternatives to road exist.
No transport restrictions within planning permissions for sand and gravel or crushed rock</td></tr>
<tr><td>11</td><td>Levels of imports and exports</td><td>Data is not always complete/reliable.
Review data from AM Survey 2019 and compare with AM 2014</td><td>Demand/Supply indicator, depending on movements into or out of the area</td><td>
<table>
<tr><td>Sand and gravel</td><td>2014</td><td>2019</td></tr>
<tr><td>Exports</td><td></td><td></td></tr>
<tr><td>Remainder of South Wales</td><td>1-10%</td><td><1%</td></tr>
<tr><td>Shropshire and Telford and Wrekin</td><td>1-10%</td><td><1%</td></tr>
<tr><td>Worcestershire</td><td>10-20%</td><td>10-20%</td></tr>
<tr><td>Imports</td><td></td><td></td></tr>
<tr><td>Gloucestershire County Council</td><td>1-10%</td><td>1-10%</td></tr>
<tr><td>Staffordshire County Council</td><td>30-40%</td><td>20-30%</td></tr>
</table>
</td></tr>
</table>

				Worcestershire County Council	10-20%	30-40%

Crushed rock	2014	2019
Exports		
Scotland		1-10%
Gloucestershire	<1%	1-10%
Unknown destination	1-10%	
Unknown destination but somewhere in North Wales	1-10%	
Shropshire and Telford and Wrekin	1-10%	<1%
Worcestershire	10-20%	20-30%
Remainder of West Midlands	1-10%	<1%
Imports		
Gloucestershire	1-10%	10-20%
Somerset	10-20%	<1%
South Gloucestershire	1-10%	1-10%
Leicestershire	1-10%	<1%
Shropshire	1-10%	1-10%
Telford and Wrekin		1-10%
Powys	40-50%	20-30%

12	Limited geological reserves	Generalised; not specific to particular permitted quarry operations Note LUC study for previous regional apportionment which considered the extent of aggregate resources and its constraint by international/ national designations for the environment or culture.	Supply indicator	Volume of unsterilised sand and gravel outside international and national designations: 2,222.68mt Volume of unsterilised crushed rock outside international and national designations: 2,042.49mt
13	Local plan allocations	See d) for 9 above.	Supply indicator	See 9 d) above
14	Contribution from alternative aggregates	Record permissions for: New / extended waste facilities with capacity for producing recycled aggregate. New/ extended facilities for producing secondary aggregate from industrial by products. Permissions for major development involving redevelopment of previously developed land involving demolition/ land clearance works.		Lugg Bridge is allocated in the MWLP for an extension to capacity, although sales in recent years are well below current capacity. None None