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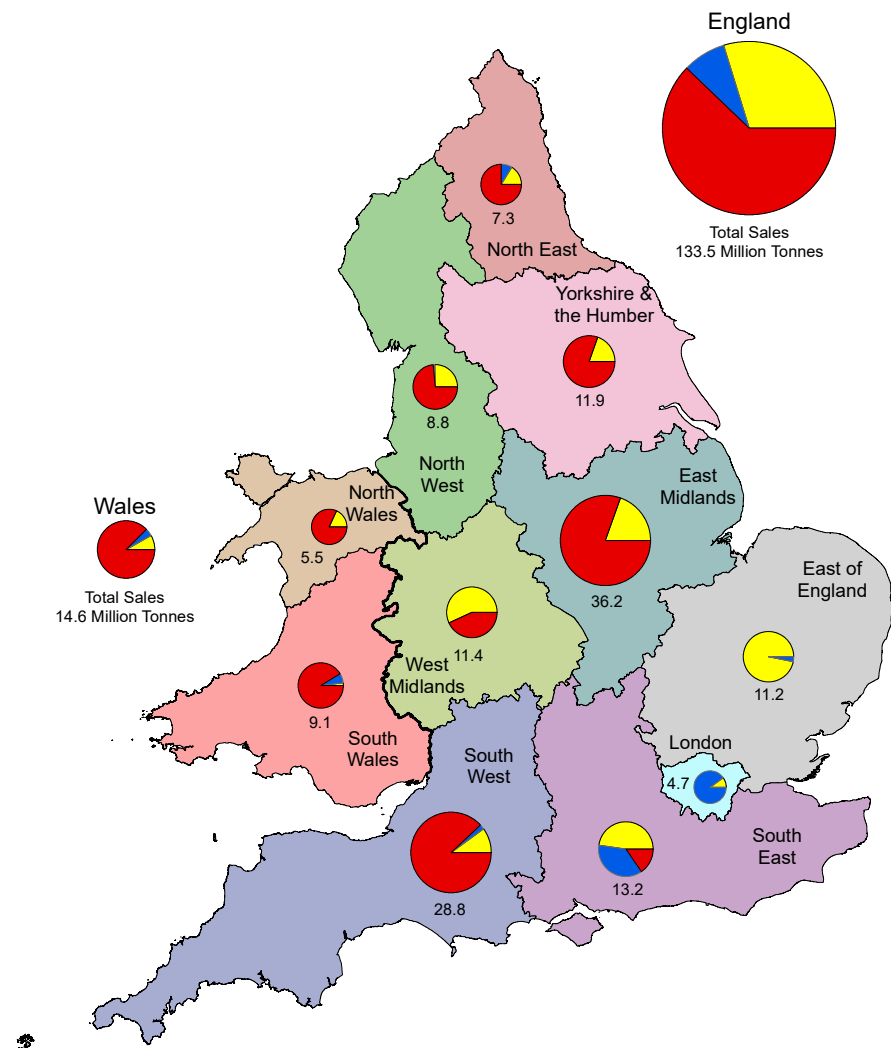


Llywodraeth Cymru
Welsh Government

Collation of the results of the 2019 Aggregate Minerals Survey for England and Wales

Decarbonisation and Resource Management Programme

Open Report OR/21/024



BRITISH GEOLOGICAL SURVEY

DECARBONISATION AND RESOURCE MANAGEMENT PROGRAMME
OPEN REPORT OR/21/024

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Collation of the results of the 2019 Aggregate Minerals Survey for England and Wales

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1 Introduction

Aggregate Minerals (AM) surveys, normally undertaken at four-yearly intervals since 1973, but at five yearly intervals for the current and previous survey, provide an in-depth and up-to-date understanding of national and sub-national sales, inter-regional flows, transportation, consumption and permitted reserves of primary aggregates. The AM survey aims to provide comprehensive data for monitoring and facilitating aggregates provision at local, regional and national level. The output is used mainly by the Government, MPAs, industry and environmental interest groups. The surveys are used to inform the development of minerals policy in respect to the production, movement and consumption of aggregates. The data are made publicly available.

This report is the collation of the data for primary aggregates for 2019. In addition to presenting information on regional and national sales, consumption, and permitted reserves of primary aggregates, the AM2019 report also presents data on the movement and consumption of primary aggregates by sub-region. Information is also presented on the quantity of aggregate minerals granted and refused planning permission and planning applications withdrawn between 2015 and 2019. In addition, information is presented on the quantity of aggregate minerals within planning applications submitted between 2015 and 2019 which were awaiting a decision at 31 December 2019.

The information is presented for England and Wales, for individual regions and, where relevant, sub-regions. It was collected from aggregate producers (reserves, sales and sales by destination) and Mineral Planning Authorities (MPAs) (planning permissions) using standard survey forms. The information submitted via these forms was collated by the British Geological Survey (BGS) on behalf of the Ministry of Housing, Communities and Local Government (MHCLG) and the Welsh Government. Similar information was published by the then Department of the Environment for 1973, 1977, 1985, 1989 and 1993, the Department of the Environment, Transport and the Regions for 1997, the Office of the Deputy Prime Minister for 2001, the Department for Communities and Local Government (DCLG) and the Welsh Assembly Government for 2005 and 2009 and DCLG and the Welsh Government for 2014 (Appendix H). Comparisons of sales, consumption and permitted reserves for these years and 2019 are provided in Tables D1 to D3.

The BGS (Appendix K) was commissioned in March 2020 by MHCLG to implement the AM2019 survey and to collate, interpret and report the results. The study was overseen by a Steering Group, which included representatives of MHCLG, the Welsh Government, Aggregate Working Parties (England) and Regional Aggregate Working Parties (Wales)¹ the Planning Officers' Society and the aggregates industry (Appendix J).

1.1 POLICY BACKGROUND

The key Government objectives and planning policies on minerals in England are set out in the *National Planning Policy Framework (2019)*². The NPPF is accompanied by planning practice guidance for which that on mineral extraction in plan making and the application process was published in 2014. *Planning Policy Wales (2021)* sets out the land-use planning policy of the Welsh Government in relation to minerals extraction and development in Wales. Minerals Technical Advice Note 1: *Aggregates (2004)* sets out detailed advice on the mechanisms for delivering policy specifically for land-based aggregates extraction in Wales by MPAs and the aggregates industry.

¹ AWP is used throughout the national collation to encompass Aggregate Working Party and Regional Aggregate Working Party.

² Proposed revisions to the NPPF (including some to the minerals section) have since undergone consultation between January and March 2021.

The results of the AM2019 survey will be used:

- to monitor and develop planning policies for the managed supply of aggregates in both England and Wales;
- in the preparation of Local Aggregates Assessments by MPAs in England, which are annual assessments of the demand for and supply of aggregates in their areas;
- to inform all stakeholders of the current state of aggregates supply; and
- as a source of contextual data with respect to planning applications for the extraction of aggregates.

1.2 AM2019 SURVEY

AM2019 is the first Aggregate Minerals Survey where results were collected centrally via an on-line submission process developed by MHCLG. Operators were, however, also provided with the option of submitting data via an off-line Excel version of the survey form made available by the BGS. This option was generally utilised by operators with a large number of sites as it simplified the process of submitting survey returns. The results were collected using two standard inquiry forms (Forms A and B) (Appendix F).

Form A relates to sales by end use, sales by destination (sub-region) and transport method, and permitted reserves of primary aggregates. A web link to access the form was forwarded to the following sites by MPAs in England and Wales for completion by operators/owners:

- all active quarries producing land-won primary aggregates at some time during 2019, either as a principal activity or as a subsidiary activity, such as a by-product of building stone or ancillary to silica sand extraction;
- inactive sites, either worked in the past or yet to be worked (greenfield), that contain permitted reserves of aggregates;
- marine wharves at which marine-dredged sand and gravel was landed and processed in 2019; and
- marine wharves at which crushed rock from outside England and Wales was landed in 2019.

There are 161 authorities in England and 25 in Wales designated as MPAs (Map 1). However, a number of unitary authorities (London boroughs, metropolitan districts and a few rural authorities) are either totally urban or have no mineral workings for aggregates. Excluding MPAs with no aggregate mineral workings, data were collected for 117 of the remaining authorities.

Both the Mineral Products Association and the British Aggregates Association supported the survey. The rate of return of Form A was very high for this voluntary survey with returns for 88%+ of active sites being received. Where figures were not forthcoming, and where feasible, estimates may have been made by the MPAs or AWP Secretaries. Wherever possible estimates were based on earlier records. The proportion of estimates made by the MPAs or AWP Secretaries was very low representing 3.5% of total sales, 3.8% of total reserves and 3.4% of destination data (used to calculate consumption) respectively.

The survey results present data for **723** quarries, of which **132** were inactive worked in the past and a further **25** sites which have yet to be worked. Of the 566 active quarries surveyed, 271 were for crushed rock and 295 for land-won sand and gravel. The survey also included 46 wharves at which marine sand and gravel was landed, and 24 wharves landing crushed rock. Some wharves landed both sand and gravel and crushed rock. The distribution of the sites surveyed is shown in Maps 2 and 3 and Table 22.

The previous survey (AM2014) collected for the first time the current planning permission end-date for all active sites. This was repeated for AM2019. Figures 1, 2 and 3 summarise this information by commodity and country.

Sales and distribution data relate to 2019 and the permitted reserves were estimated at 31 December 2019. The information is presented by Aggregate Working Party Area (Map 1) using the boundaries that were applicable as at 31 December 2019. The MPAs comprising the separate AWP regions of England and Wales are also shown on Map 1 and are listed in Appendix L. Comparisons of sales, consumption and permitted reserves for the regions from 2001 are provided in Tables E1 to E3.

In all previous AM surveys, data on the movement of aggregates was collected on the basis of inter-regional flows. Since AM2005 the survey has also collected information on the movement of aggregates on a sub-regional basis. AM2019 used the same sub-regions as AM2014 (and AM2009) thus allowing comparisons to be made. The sub-regions used for AM2019 are shown on Map 1. The sub-regional survey of sales by destination undertaken since AM2005 enables a large amount of additional information to be collected, including a more detailed analysis of primary aggregates consumption by sub-region.

Data are presented on sand and gravel, both land-won and marine-dredged, and crushed rock aggregate. The latter includes limestone (including dolomite), igneous rock (including metamorphic rock), sandstone (including gritstone, greywacke and quartzite), chalk and ironstone. Both chalk and ironstone are used in some regions for less demanding aggregate applications. However, they contribute less than 0.3% to total supply. As in conventional practice, landings of marine sand and gravel are assigned to the MPA in which the wharf is located.

Form B sought information on the numbers of aggregate mineral planning applications granted or refused planning permission and the numbers of planning applications withdrawn during the period 2015 to 2019, the numbers of planning applications awaiting a decision at 31 December 2019, and the quantity of mineral contained within these permissions or applications. Form B was completed by individual MPAs. This survey provides valuable information on the extent that permitted reserves of primary aggregates are being supplemented by new permissions and, in combination with the sales data, the extent that reserves are being depleted.

In preparing this report, the commentary and data have been presented in a style that is, as far as possible, consistent with previous surveys and comparisons with earlier surveys are made where appropriate. Whereas every effort has been made to ensure the accuracy of the figures presented, neither the MHCLG / Welsh Government, nor the BGS can be held responsible for any errors contained therein.

Regional collations of the 2019 survey data will also be published in the AWP Annual Reports. These are available from the AWP Secretaries (see Appendix I). These contain more detailed information, generally at MPA (often County) level.

1.3 CONFIDENTIALITY

Data relating to an individual quarry are normally considered to be confidential. Any figure disclosed must include at least three companies' interests unless all the parties involved have been contacted and their prior approval obtained in writing, permitting the release of the information. For the purposes of the AM2019 survey, Mineral Products Association members, which account for a major proportion of total sales, relaxed these confidentiality restrictions by providing, via the Association, prior permission for publication of figures where this 'three company' rule would normally apply. This has allowed additional data to be disclosed, particularly for environmental designations. Whilst strongly advising all its members to fully cooperate, the British Aggregates Association was unable to relax the three company rule. Neither association was able to compel its member companies to complete the survey.

1.4 SURVEY COVERAGE

The AM2019 survey refers to 'sales' of aggregates. The term relates to material leaving a quarry/wharf as measured at a weighbridge. The term 'sales' is more accurate than 'production'

as used in some previous surveys prior to AM97. However, as weighbridge sales were the main source of statistics on 'production' in previous surveys readers should not draw any statistical inferences from the change in terminology.

The main constraints on the data continue to be confidentiality considerations and 'unallocated sales' of unknown destination. At 3.3 Mt, total unallocated sales are higher than for AM2014 (2.6 Mt) (Table 2b).

2 National Overview

Sales, consumption, and inter-regional flows of primary aggregates in England and Wales and by region are summarised in Tables 1 to 8. Tables 9 to 11 provide, respectively, an overview of sales by MPA and sub-region, imports by sub-region and consumption by sub-region. Permitted reserves of aggregates at 31 December 2019 by region and by environmental designation are summarised in Tables 12 and 13. The numbers of planning applications granted and refused permission to supply wholly, or in part, aggregate minerals, and the amount of mineral that these contained are summarised in Tables 14 and 15 whilst those awaiting a decision or whose planning application has been withdrawn are summarised in Tables 16 and 17. For the first time, equivalent planning permission data on the proportion of total reserves allocated to non-aggregate uses (where such a differentiation could be deduced by MPAs) was collected and are presented in Tables 18 to 21. More detailed information on sales, reserves, and planning permissions/refusals are presented in Appendices A to C, respectively. A comparison of sales, consumption and permitted reserves of primary aggregates with all previous AM surveys is given in Appendix D and, in relation to the modern regions used for all the surveys since AM2001, Appendix E.

2.1 SALES

Total sales of primary aggregates produced in England and Wales, including marine-dredged sand and gravel, but not imports of aggregates from outside England and Wales, were **148.1 Mt** in 2019 of which **90%** was produced in England. **Total sales increased by about 8% between 2014 (137.0 Mt) and 2019 (148.1 Mt)**, with crushed rock showing the largest increase (16%) from **82.5 Mt** in 2014 to **95.8 Mt** in 2019. Sales of land-won sand and gravel increased (1%) from **40.5 Mt** in 2014 to **40.9 Mt** in 2019.

Reported sales of marine-dredged sand and gravel decreased (18%) from **14.0 Mt** in 2014 to **11.4 Mt** in 2019. However, total landings of marine sand and gravel (not all of which are sold in the period and therefore any comparison can only be indicative), as reported by The Crown Estate, **increased** (14%) from 11.8 Mt in 2014 to 13.4 Mt in 2019. With a number of wharf returns missing, sales of marine-dredged sand and gravel are likely slightly under reported in the AM2019 survey.

In 2019 total sales of primary aggregates were down **121.5 Mt** on the largest output in previous AM surveys in **1989** when total primary aggregate sales were **269.6 Mt**.

Primary aggregates sales in England and Wales for 2019, comprised **27.6% land-won and 7.7% marine-dredged sand and gravel, with crushed rock making up the remaining 64.7%**. Limestone/dolomite remained by far the most important source of crushed rock aggregate, accounting for 69% of the total, followed by igneous rock (22%), sandstone (9%), and minor chalk and ironstone (<0.5%). **Marine sand and gravel supplied about 21% of total sand and gravel output in England, compared with 35% in Wales.**

National Parks and AONBs cover 24.0% of the land area of England and 24.4% of Wales. **In England and Wales 8.7% and 5.0% of total crushed rock sales were supplied from National Parks and AONBs respectively, and 0.8% and 2.9%, respectively for land-won sand and gravel.**

2.2 CONSUMPTION

The AM surveys are the only comprehensive measurement of apparent consumption of primary aggregates (see glossary - aggregate consumption) by region and now sub-region. **Total apparent consumption** of primary aggregates was **149.8 Mt** in 2019, of which **138.7 Mt** was used in England and **11.1 Mt** in Wales. Total consumption should be somewhat higher than total sales because it includes imports from outside England and Wales. Total **unallocated sales** of unknown destination were **3.3 Mt in 2019**. Taking into account unallocated sales, the total consumption of primary aggregates in England and Wales was about **153.2 Mt** in 2019.

2.3 NATIONAL FLOWS

England was a net importer of primary aggregates (5.3 Mt) and Wales a net exporter (3.5 Mt). Total exports from Wales comprised 3.9 Mt of crushed rock and 0.5 Mt of sand and gravel. Imports into Wales were 0.8 Mt of crushed rock and 0.06 Mt sand and gravel. **Some 4.8 Mt were imported into England and Wales from Scotland and Europe.** Almost all of this was crushed rock (mainly igneous rock) imported into the South East, London and the East of England principally from Scotland and Norway, but with small quantities from France and Northern Ireland. Total imports from outside England and Wales were greater than in 2014 (3.2 Mt).

Total exports of land-won primary aggregates from England and Wales were 0.2 Mt in 2019. 4.7 Mt of marine sand and gravel dredged from the UK Continental Shelf were landed at foreign ports in 2019 (Source: The Crown Estate). With exports from England and Wales to Scotland and overseas matching corresponding imports, together the countries are no longer a net exporter of aggregates. A further 3.9 Mt of marine sand and gravel were used for contract fill and beach nourishment (Source: The Crown Estate). Landings of marine sand and gravel at foreign ports and that used for contract fill and beach nourishment are not covered by AM surveys.

2.4 RESERVES

Total permitted reserves for aggregate use in active and inactive sites in England and Wales, including sites worked in the past but still containing reserves (but not dormant sites) and sites that have yet to be opened, at the end of 2019 were **4 157 Mt**. Crushed rock accounted for **89% (3 697 Mt)** and sand and gravel the remaining **11% (460 Mt)**. Of total permitted reserves, 76% were in active sites and 82% in England.

Sites classified as 'Dormant' under the terms of the Planning & Compensation Act 1991 and the Environment Act 1995 contained **232 Mt**. These tonnages are separately identified in Table 12 but are excluded from the totals. Dormant sites cannot be worked until new schemes of conditions have been determined and, therefore, do not contain 'permitted reserves'. The data presented on dormant sites cannot be considered complete as some regions have dormant sites where the volume of aggregates contained is not known and, therefore, could not be supplied by the MPA.

Total permitted reserves of sand and gravel for non-aggregate use were 8.5 Mt in 2019. Total permitted reserves of crushed rock for non-aggregate use were 379.7 Mt of which 93% was limestone/dolomite.

3 Sales of Primary Aggregates

Table 2a summarises sales by region and country of origin, and by the major types of primary aggregate, i.e. land-won/marine sand and gravel and crushed rock. Table A4 summarises sales by mineral type for crushed rock aggregate. Table D1 compares primary aggregate sales for each AM survey since 1973 and, in relation to the modern regions used for the AM2001 survey onwards, Table E1. National and regional sales are also shown on Map 4.

3.1 REGIONAL SALES

The **East Midlands** continued to be by far the largest producing region at **36.2 Mt, equivalent to 26%** of total primary **land-won** aggregate sales in England and Wales. The **South West (28.2 Mt, 21%)** was the second largest source of land-won primary aggregates. Excluding London, North Wales (5.5 Mt) and the North East (6.7 Mt) were the smallest producing regions of land-won primary aggregates.

Within these totals, the sand and gravel, and crushed rock balance differs significantly. The **East Midlands** accounted for the largest volume of **crushed rock aggregate sales (29.2 Mt, 30%), slightly larger than the South West (25.3 Mt, 26%).** Of total sand and gravel (including marine-dredged sales), the **South East (11.2 Mt, 21%)** and the **East of England (11.1 Mt, 21%)** accounted for the highest proportion. Marine-dredged sand and gravel as a proportion of regional sand and gravel sales was however 44% (4.9 Mt) in the South East compared with 3% (0.4 Mt) in the East of England.

Greater London (**0.5 Mt**), the North East (**1.2 Mt**), South Wales (**0.2 Mt**) and North Wales (**1.0 Mt**) produced the smallest amounts of land-won sand and gravel. Conversely, East of England (**0.1 Mt**) and the South East (**2.0 Mt**) were the smallest crushed rock producers. There is no crushed rock production in London.

The balance between sand and gravel, and crushed rock production largely reflects the underlying geology and hence the aggregate resources within these areas. Regions with large crushed rock resources and permitted reserves (East Midlands and South West) and which are relatively close to major markets, continue to contribute substantially to the high levels of demand in more populated regions, notably London and the South East (where sand and gravel dominates and hard rock is scarce), and also the North West.

The South West was the largest producer of limestone for aggregate use at **22.7 Mt** (34% of total limestone sales) followed by the East Midlands with **16.5 Mt** (25%). The East Midlands accounted for 59% (**12.4 Mt**) of total igneous rock aggregates sales making it, by far, the largest producer.

3.2 COMPARISON WITH 2014

Almost all regions showed an increase in **total primary aggregate sales between 2014 and 2019** (summarised in the comparison of sales of primary aggregates in 2014 and 2019 table below). The regions which showed a decrease in total primary aggregate sales when compared with 2014 were the South East, London and the East of England. The overall increase in total primary aggregate sales was largely as a result of increased sales of crushed rock.

Sand and gravel sales in England decreased by 4% between 2014 (52.4 Mt) and 2019 (50.5 Mt) whilst **sand and gravel sales for Wales decreased by about 16%** between 2014 (2.1 Mt) and 2019 (1.8 Mt). **Crushed rock sales in England increased by 18%** between 2014 (70.5 Mt) and 2019 (83.0 Mt) and **crushed rock sales in Wales increased by 7%** between 2014 (12.0 Mt) and 2019 (12.8 Mt).

The North East (29%), West Midlands (10%) North Wales (10%) and East Midlands (7%) were the only regions which showed an increase in total sand and gravel sales between 2014 and 2019. for each region. South Wales (35%), the South West (12%) and the South East (10%) showed the largest decrease in sales of sand and gravel between 2014 and 2019.

The North East (31%) and West Midlands (30%) showed the largest increases in crushed rock sales. The East Midlands and South West, the two regions accounting for the largest volumes of crushed rock aggregate sales, showed increases in sales of 23% and 18% respectively. **Only the East of England (84%) showed a decrease in crushed rock sales** between 2014 and 2019.

Comparison of sales of primary aggregates in 2014 and 2019

Thousand tonnes

Region	Land-won sand and gravel			Marine sand and gravel			Total sand and gravel			Crushed rock			Total primary aggregate		
	2014	2019	% change	2014	2019	% change	2014	2019	% change	2014	2019	% change	2014	2019	% change
South West	3 278	2 870	-12%	645	563	-13%	3 923	3 433	-12%	21 439	25 321	18%	25 362	28 754	13%
South East	5 858	6 311	8%	6 626	4 893	-26%	12 484	11 205	-10%	1 795	2 026	13%	14 279	13 231	-7%
London	376	475	26%	4 678	4 237	-9%	5 054	4 711	-7%				5 054	4 711	-7%
East of England	11 586	10 774	-7%	350	350	0%	11 936	11 125	-7%	632	104	-84%	12 568	11 229	-11%
East Midlands	6 600	7 063	7%				6 600	7 063	7%	23 806	29 164	23%	30 407	36 227	19%
West Midlands	5 877	6 476	10%				5 877	6 476	10%	3 775	4 919	30%	9 651	11 395	18%
North West	2 461	2 238	-9%	109	97	-11%	2 571	2 335	-9%	5 849	6 466	11%	8 419	8 801	5%
Yorkshire & the Humber	2 509	2 312	-8%				2 509	2 312	-8%	9 040	9 546	6%	11 549	11 858	3%
North East	873	1 187	36%	537	633	18%	1 410	1 820	29%	4 165	5 468	31%	5 575	7 289	31%
England	39 418	39 708	1%	12 944	10 773	-17%	52 363	50 480	-4%	70 501	83 015	18%	122 864	133 495	9%
South Wales	205	181	-12%	1 013	608	-40%	1 218	789	-35%	7 825	8 310	6%	9 043	9 099	1%
North Wales	897	999	11%	30	22	-27%	927	1 021	10%	4 168	4 522	8%	5 095	5 543	9%
Wales	1 102	1 180	7%	1 043	630	-40%	2 145	1 810	-16%	11 994	12 832	7%	14 138	14 642	4%
England and Wales	40 520	40 887	1%	13 987	11 403	-18%	54 507	52 290	-4%	82 495	95 847	16%	137 002	148 137	8%

1. Crown Estate landings of marine sand and gravel (not all sold) were 11.8 Mt in 2014 and 13.4 Mt in 2019.

4 End Uses

Two main categories of end use data were collected. These categories distinguish between aggregate uses and non-aggregate or 'industrial' uses, where the latter are associated with aggregates extraction. The AM2019 survey covered only those sites that produced aggregates for sale, either as the principal or as an ancillary activity. Quarries extracting aggregate minerals solely for non-aggregate applications were not surveyed. The rationale for collecting some information on non-aggregate uses is that in certain circumstances the associated permitted reserves could alternatively be deployed to meet demand for aggregates.

Table 6 shows sales of primary aggregates (both crushed rock, and sand and gravel) grouped into broad end use product categories. Table A1, A2 and A3 in Appendix A provide sales by product for land-won sand and gravel, marine-dredged sand and gravel and crushed rock, respectively. End use figures should be treated with some caution. Although quarry operators will know what products they sell, they cannot always be sure what a product will ultimately be used for.

4.1 ALL PRIMARY AGGREGATES

Of total aggregate sales in 2019, 31% were used as concreting aggregate, 25% as roadstone (coated as asphalt and uncoated), 22% were used as other screened and graded aggregates, and 17% for other construction uses, including fill. The remainder is split between building/asphalting sand, railway ballast, and armourstone.

4.2 SAND & GRAVEL

Concreting aggregate again proved to be the largest product for both land-won and marine-dredged **sand and gravel**. It accounted for some **55% of land-won** and **79% of marine-dredged** sales for aggregate use respectively. The other main products were, other screened and graded gravels, sand suitable for use in mortar and sand and gravel for construction fill.

4.3 CRUSHED ROCK

Crushed rock has a wider range of uses including as a source of both coarse and fine **concrete aggregate (14%)**, **other screened and graded aggregates (28%)** and for **other construction uses, including fill (18%)**. However, its main use is in road construction, both unbound ('dry stone'), primarily for the foundations of roads and bound with either bitumen (to produce 'coated roadstone') or cement in the upper layers. Rocks with high skid resistant properties are required for the wearing course. **Coated roadstone and dry stone** represented the **largest crushed rock aggregate use at 35.8 Mt or 37%** of total crushed rock aggregate sales. Of this total 14.4 Mt was used as coated roadstone. Other smaller specialist uses, include railway track ballast (1.5 Mt) and armourstone (0.3 Mt).

4.4 NON-AGGREGATE USES

Although the data for non-aggregates uses (mainly limestone/ dolomite) are incomplete (see section 4 above), the most important uses were cement manufacture, other unspecified industrial uses, a flux in iron/steel making and agricultural use (Table A3 and A5). Recorded **non-aggregate uses of crushed rock** were **10.3 Mt** in 2019, of which 98% (10.1 Mt) was limestone/dolomite. The **East Midlands** accounted for **7.0 Mt** (69%) of the limestone/dolomite total.

Sales of land-won sand and gravel (mainly silica sand) for non-aggregate (industrial) uses were 3.3 Mt, all of which was produced in England. The North West was the major producing region, contributing 1.5 Mt followed by the East of England (0.6 Mt). Total sales of sand and gravel in 2019 for non-aggregate uses will have been higher as these figures do not include sales from quarries extracting sand solely for non-aggregates applications (as such sites are not included in aggregate mineral surveys).

5 Inter-Regional Flows

The four yearly AM surveys are the only published source of information on aggregate sales by destination (region and, from AM2005, sub-region). The regions and sub-regions used are shown on Map 1. Quarry operators cannot always be sure of where their products will be sold, particularly for 'collect' sales. Consequently it has not been possible to allocate all sales of primary aggregates to definite destinations by either region or sub-region. 'Unallocated' sales of unknown destination were 3.3 Mt in 2019 (2% of total sales). The inter-regional and sub-regional flow information is used to calculate consumption data and unallocated sales thus have the effect of reducing total consumption.

Maps 6 and 7 illustrate the pattern of inter-regional flows for sand and gravel, and crushed rock aggregate, respectively. The statistical results of the destination survey are presented in Tables 3, 4a-k and 5a-k for regions and Tables 9a-k, 10 and 11 for sub-regions. **Inter-regional flows of crushed rock are significantly larger than for sand and gravel because of the overall larger demand for crushed rock, particularly for roadstone, and because regions such as the South East, London and the East of England have only minor, or inferior quality, crushed rock resources.** In addition, the consistency and extent of some hard rock deposits permits their working on a very large scale, enabling much wider geographical areas to be served economically by rail. The transfer of crushed rock between regions is, therefore, more complex and uneven than for sand and gravel. It reflects the combined pattern of the extent of crushed rock resources and markets /population (demand).

5.1 CRUSHED ROCK

Total exports of crushed rock from Wales to England were 3.2 Mt compared with **0.19 Mt** in the opposite direction. The traditionally large crushed rock producers in England, the **East Midlands and South West**, have the largest exports representing **49% (14.3 Mt)** and **33% (8.4 Mt)** of their respective total crushed rock sales. Exports of crushed rock from North Wales, another traditional crushed rock exporter were 41% (1.8 Mt) of crushed rock sales. The main importing regions were the **East of England (8.8 Mt)**, mainly from the East Midlands and the South West, the **North West (6.2 Mt)**, mainly from the East Midlands and North Wales, and the **South East (5.3 Mt)**, mainly from the South West.

A **significant amount of crushed rock (4.8 Mt)** was imported from outside England and Wales, mainly from Scotland and Norway. The largest proportion (1.5 Mt) was landed in the South East followed by London (1.4 Mt) and the East of England (1.2 Mt).

5.2 SAND & GRAVEL

Flows of sand and gravel were around one third the level of crushed rock. Total exports of sand and gravel from Wales to England were 0.52 Mt compared with Welsh imports from England of 0.06 Mt. The leading exporters of sand and gravel were the East Midlands (2.2 Mt), London (2.1 Mt) and the South East (1.7 Mt), and the leading importing regions were the East of England (2.3 Mt) and the South East (1.6 Mt). The majority of marine sand and gravel was used within the region where it was landed. The **South East (4.9 Mt) and London (4.2 Mt) dominate marine-dredged sales.**

5.3 COMPARISON WITH 2014

Net imports of primary aggregates into England from Wales decreased from **4.1 Mt** in **2014** to **3.5 Mt** in **2019**. Imports of crushed rock from outside England and Wales, mainly Norway and Scotland, have increased from **3.2 Mt to 4.8 Mt**. Sales of marine-dredged sand and gravel decreased from **14.0 Mt to 11.4 Mt** although some of this decrease will be due to AM2019 returns not being received from selected wharves.

6 Consumption

Apparent consumption figures (Tables 2b and 5a-k, and Map 5, and Table 11 for sub-regions) are calculated from data on sales within each home region (or sub-region), plus imports from other regions (or sub-regions) and, where appropriate, imports from outside England and Wales (Scotland, Northern Ireland and Europe). The difference between the data for total sales and consumption (Table 1 and Map 9) is partly due to imports from outside England and Wales but also unallocated sales. Table D2 makes a comparison of consumption with all the previous AM surveys and Table E2 for the AWP regions used from AM2001 onwards.

Total recorded apparent consumption of primary aggregates was 149.8 Mt in England and Wales, to which should be added just over **3.3 Mt** of unallocated sales to give **153.2 Mt**. The East Midlands at 21.9 Mt was the **largest consuming region**, with the East of England (21.2 Mt) and South West (21.0 Mt) both close behind.

Four regions, East Midlands, South West, North Wales and South Wales were net exporters of aggregates and the remaining seven regions were net importers, to varying degrees. The East of England, North West, and London are the regions which are **most heavily dependent upon imports**.

Some caution should be used in interpreting consumption figures as they are calculated from the principal destination of aggregate flows. Final sales, particularly for rail-borne aggregates, may be to other regions. For example, some material transported to the East of England may be finally consumed in London and the South East.

6.1 COMPARISON WITH 2014

Compared with 2014 there has been an increase (9%) in consumption of primary aggregates from **140.1 Mt to about 153.2 Mt**, including unallocated sales of just over 3.3 Mt.

7 Mode of Transport

Table 8 shows the principal mode of transport employed for the distribution of aggregate sales (for the majority of the journey) from quarries and wharves. Overall, **road** accounted for **87.8 %** of all aggregates moved, **rail transport 12.0%** and shipment by **water 0.2%**. The comparable proportions for 2014 were 90.0%, 9.6% and 0.3%, respectively.

For crushed rock, the proportion of rail deliveries **increased from 14.2% (12.2 Mt) in 2014 to 16.8% (17.0 Mt) in 2019**. The use of rail transport in the East Midlands and the South West respectively accounted for 8.7 Mt and 5.8 Mt of all crushed rock aggregate rail forwardings, the main destinations being the East of England, London and the South East. The principal transfers of crushed rock by water were from North Wales to the East of England and South East and from the South East up the River Thames.

8 Reserves

Table 12 and Map 8 summarise reserves of primary aggregates with valid planning permissions at 31 December 2019 in active and inactive sites (otherwise known as 'permitted reserves'). Data for **inactive sites distinguishes between sites worked in the past, but still containing permitted reserves, and sites where planning permission has been granted but extraction has not yet begun**. Reserves in sites classified as '**Dormant**' under the terms of the Planning & Compensation Act 1991 and the Environment Act 1995 are reported, but are excluded from the totals. Tables B1 to B4 provide more comprehensive data on permitted reserves by mineral type and environmental designation, Table D3 provides a comparison with all previous AM surveys and Table E3 for the AWP regions used from AM2001 onwards.

A large proportion of the reserves data are based on information supplied by mineral operators (calculated by them using a variety of methods). The remaining reserve data were estimated by MPAs in the absence of returns. Wherever possible estimates were based on earlier records (depleted for sales), or upon more general knowledge of the site.

At the end of 2019 **total permitted reserves in active and inactive sites** for aggregate use were **4 157 Mt** of which crushed rock accounted for **89% (3 697 Mt)**; sand and gravel accounted for the remaining **11% (460 Mt)**. Sand and gravel reserves are much smaller in relation to average annual land-won sales (equivalent to about 11 years output in 2019) than crushed rock reserves, which are usually measured in terms of a few decades (39 years in 2019).

Total permitted reserves in active sites at the end of 2019 were **3 139 Mt**. In 2019 crushed rock accounted for 88% and sand and gravel the remaining 12% of reserves in active sites.

Total permitted reserves in inactive sites were 1 017 Mt, of which 973 Mt were in sites worked in the past and only 44 Mt in sites yet to be worked (greenfield sites). Reserves contained in inactive sites classified as **'Dormant' were 232 Mt**, of which 225 Mt consisted of crushed rock and 8 Mt sand and gravel.

8.1 COMPARISON WITH 2014

Total permitted reserves show an apparent 6% **increase of 251 Mt** on 2014 when total reserves for aggregate use were **3 906 Mt**, comprising **3 448 Mt** of crushed rock and **457 Mt** of sand and gravel (excluding reserves for non-aggregate use and tonnages in dormant sites).

Total permitted reserves in active sites (3 139 Mt) show an overall small (0.4%) apparent decrease from 3 152 Mt in 2014. Total permitted reserves in active sand and gravel sites show a 9% increase from 339 Mt and crushed rock a 1% decrease from 2 813 Mt in 2014.

Some caution should, however, be used in interpreting the above comparisons with AM2014 reserves given subsequent understanding of the likely under-reporting of reserves to the AM2014 survey (see Tables D3 and E3).

8.2 DISTRIBUTION OF RESERVES

The distribution of reserves is very uneven reflecting broadly both geology and demand (Map 8). Of total reserves, **82% were in England**. Some **31% of all permitted reserves** were located in the **East Midlands** (compared with 24% of total sales), and **22%** in the **South West** (compared with 19% of total sales). These two regions also accounted for a significant proportion of total crushed rock reserves (**1 227 Mt or 33%**, and **869 Mt or 23%** respectively). Excluding London, the regions with the smallest crushed rock reserves were East of England (4 Mt) and the South East (27 Mt). This reflects the extent of crushed rock resources in the respective regions.

East of England was the region with the highest level of sand and gravel reserves (**116 Mt**) equivalent to **25%** of the sand and gravel total. Other English regions with significant sand and gravel reserves were the West Midlands (**91 Mt**), East Midlands (**68 Mt**), and the South East (**66 Mt**). Only **4%** (17 Mt) of total sand and gravel reserves were in Wales.

9 Environmentally Designated Areas

As in all previous surveys since AM97, systematic information on aggregates sales and reserves in statutorily designated areas were collected and are presented in Tables 7 and 13 respectively. In AM2019 data collection for National Nature Reserves was introduced. However, minimal responses were received in relation to this and therefore results have not been presented. Apart from National Parks and AONBs, data for **designated areas are not mutually exclusive**. For example, SACs and SPAs are also SSSIs and all may occur in National Parks and AONBs. As a consequence, the different categories cannot be totalled. However, corresponding figures for 'All Sites' (land-won sites both in and outside such areas) are given to allow the figures to be placed in context.

Some designations, notably SSSIs, may only coincide with a small part of an extant mineral permission, which may, or may not, be active. The degree of overlap, and the actual or potential impacts of mineral extraction on the conservation interest, whether geological or biological, will vary and cannot be calculated or assumed from the figures presented. In addition, legal agreements may already exist which protect these designations from quarrying. Therefore this information needs to be treated with caution.

9.1 SALES

Sales of crushed rock from sites within National Parks and AONBs were 8.3 Mt and 4.8 Mt respectively, 9% and 5% of total crushed rock sales. **Comparable figures for land-won sand and gravel were 0.3 Mt and 1.2 Mt**, this comprises 1% and 3% of total land-won sand and gravel sales.

Some **35.7 Mt total primary land-won aggregates** were produced from sites associated with **SSSIs**. Such sites accounted for 33% of crushed rock aggregate sales and 10% of total land-won sand and gravel sales. In contrast sales from sites located within Green Belts were 7.8 Mt of crushed rock and 7.3 Mt of sand and gravel.

At regional level, **40% (3.4 Mt) of crushed rock quarried in National Parks was produced in the East Midlands**. This mostly comprises limestone quarried from within the Peak District National Park. Elsewhere, **National Parks in Yorkshire & the Humber accounted for a further 39% (3.2 Mt)**. The largest sales of crushed rock aggregates from AONBs (2.8 Mt, 59%) came from the South West.

9.2 RESERVES

Total reserves of aggregates in sites within **National Parks (288 Mt)** and **AONBs (249 Mt)** were **7%** and **6%** respectively of total permitted reserves. Of total reserves in National Parks and AONBs (537 Mt), crushed rock reserves accounted for some 95%, reflecting the upland nature of these designations due to the presence of more resistant rock types. Total reserves of sand and gravel, and crushed rock in National Parks and AONBs for non-aggregate use were 150 Mt in 2019.

Total aggregate reserves in sites in part associated with **SSSIs** were **983 Mt or 24%** of the total for England and Wales. They consist almost entirely (96%) of crushed rock. However, in many cases only a small part of a mineral permission may occur within an SSSI, whilst reserves relate to the whole site area permitted for extraction. These figures should, therefore, be treated with caution. **Total reserves in Green Belts were 306 Mt**, comprising **208 Mt** of crushed rock and **98 Mt** of sand and gravel.

10 Secondary Aggregates

The AM2019 survey was not confined to primary aggregates. It also collected sales data on aggregates which originate as a by-product of other quarrying operations – secondary aggregates. These principally included china clay waste and slate waste. **In total 2.4 Mt of such alternative aggregates were sold in 2019**. The equivalent total in 2014 was 2.3 Mt.

11 Planning Permissions and Refusals

Information has been collected on the numbers of planning applications granted and refused permission to supply wholly, or in part, aggregate minerals, and the amounts of mineral that these contained. In addition, the survey has collected information on the number of planning applications withdrawn and not re-submitted or which have yet to be determined. Data are presented by site type, e.g. new quarry, borrow pit or extension, and by environmental designation for the period 2015 to 2019. For the first time, 'Permissions' issued under the terms

of the Planning & Compensation Act 1991 and the Environment Act 1995 (ROMPs) have been included and are reported as 'dormant reactivation'.

As for previous surveys, 'permissions' granted by way of an amendment to a condition, for example extending the time limit of an existing valid permission or an increase in output, are not included. This is because in these cases the permission did not provide additional reserves. In addition, refusals of the above applications are not included since the loss of the reserves, and also any reduction in reserves flowing from any modification of permission granted, are already accounted for in the reserve figure.

Tables 14 and 15 show the total number of planning applications **granted and refused permission by region between 2015 and 2019, inclusive**, and the amounts of mineral they contained. **Permissions, (238 or 96% of those granted/refused) greatly exceeded refusals (10). Total reserves of crushed rock granted planning permission between 2015 to 2019 were 269 Mt, of which 204 Mt were in England and 65 Mt in Wales.** Total crushed rock reserves granted permission (273 Mt) were lower than in the period 2010 to 2014 (281 Mt). The largest increases in crushed rock reserves were in the South West (88 Mt) and South Wales (65 Mt).

Total reserves of sand and gravel granted planning permission between 2015 to 2019 were 197 Mt, of which 194 Mt were in England and 3.0 Mt in Wales. The largest additions were in the East of England (39 Mt), East Midlands (38 Mt) and West Midlands (31 Mt). Sand and gravel reserves granted planning permission between 2015 and 2019 (197 Mt) were higher than in the period 2010 to 2014 (149 Mt).

Tables 16 and 17 show the number of planning applications awaiting a decision (as at 31 December 2019) or which have been withdrawn from the planning process between 2015 and 2019 and which have not been re-submitted subsequently. Applications awaiting a decision are those where the planning application has been validated and no decision had been reached by the local authority by the 31 December 2019 or where there is an outstanding appeal/legal challenge or where the application has approval from the mineral planning authority but is awaiting signing of S106 agreements.

At the end of 2019 there were 76 planning applications where a decision was outstanding. These comprise **152 Mt of total aggregate** split between 91 Mt crushed rock and 62 Mt sand and gravel. It is important to note that not all planning applications awaiting a decision may be granted. Eight planning applications were withdrawn between 2015 and 2019 and were not re-submitted subsequently. These comprised 9 Mt crushed rock and 2 Mt sand and gravel.

For the first time in an AM survey, MPAs were requested to provide the equivalent information on the proportion of total reserves allocated to non-aggregate uses (where such a differentiation could be deduced from the planning application). Results are presented in Tables 18 to 21.

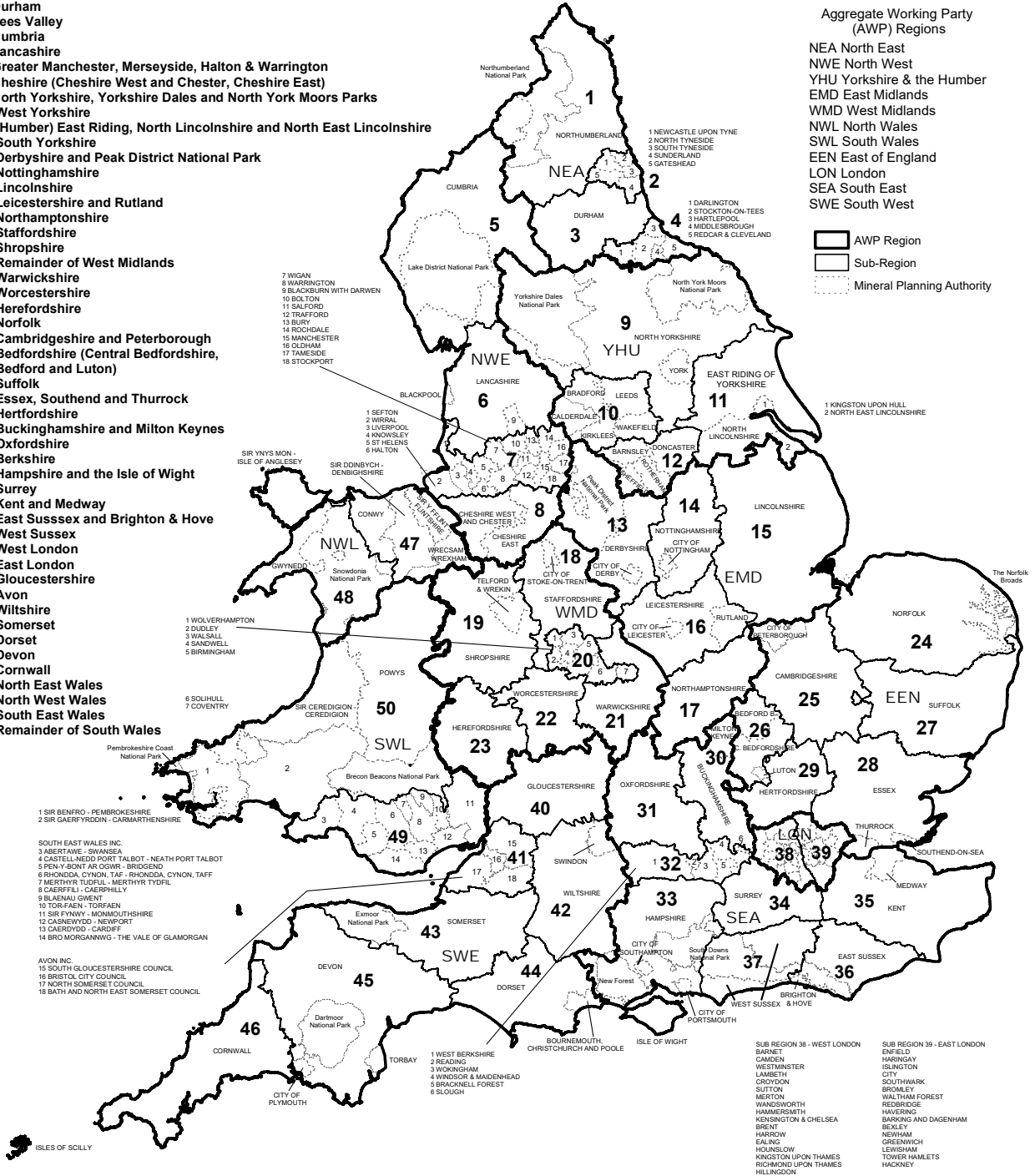
The tonnage of sand and gravel and crushed rock for aggregates granted or refused permission, together with that either awaiting a decision or which has been withdrawn is shown by site type and designated area in Tables C1 to C16 in Appendix C. Total reserves of crushed rock granted planning permission in National Parks and AONBs for the period 2015 to 2019 were 18 Mt and 44 Mt respectively. No reserves of sand and gravel were granted permission in National Parks while 2 Mt were granted in AONBs. Total reserves granted planning permission in sites related to SSSIs were 48 Mt for crushed rock and 9 Mt for sand and gravel. Reserves granted permission in sites related to Green Belts was 23 Mt for crushed rock and 38 Mt for sand and gravel.

Planning permission information on aggregate sites located within areas of land allocated for mineral extraction (allocated site, preferred area, area of search) in the MPAs development plan is shown in Tables C17 and C18 in Appendix C. Total reserves of aggregate mineral granted permission between 2015 and 2019 in sites located within areas allocated for mineral extraction in the relevant MPA development plan was 49 Mt (18% of total reserves permitted) for crushed rock and 121 Mt (61% of total reserves permitted) for sand and gravel.

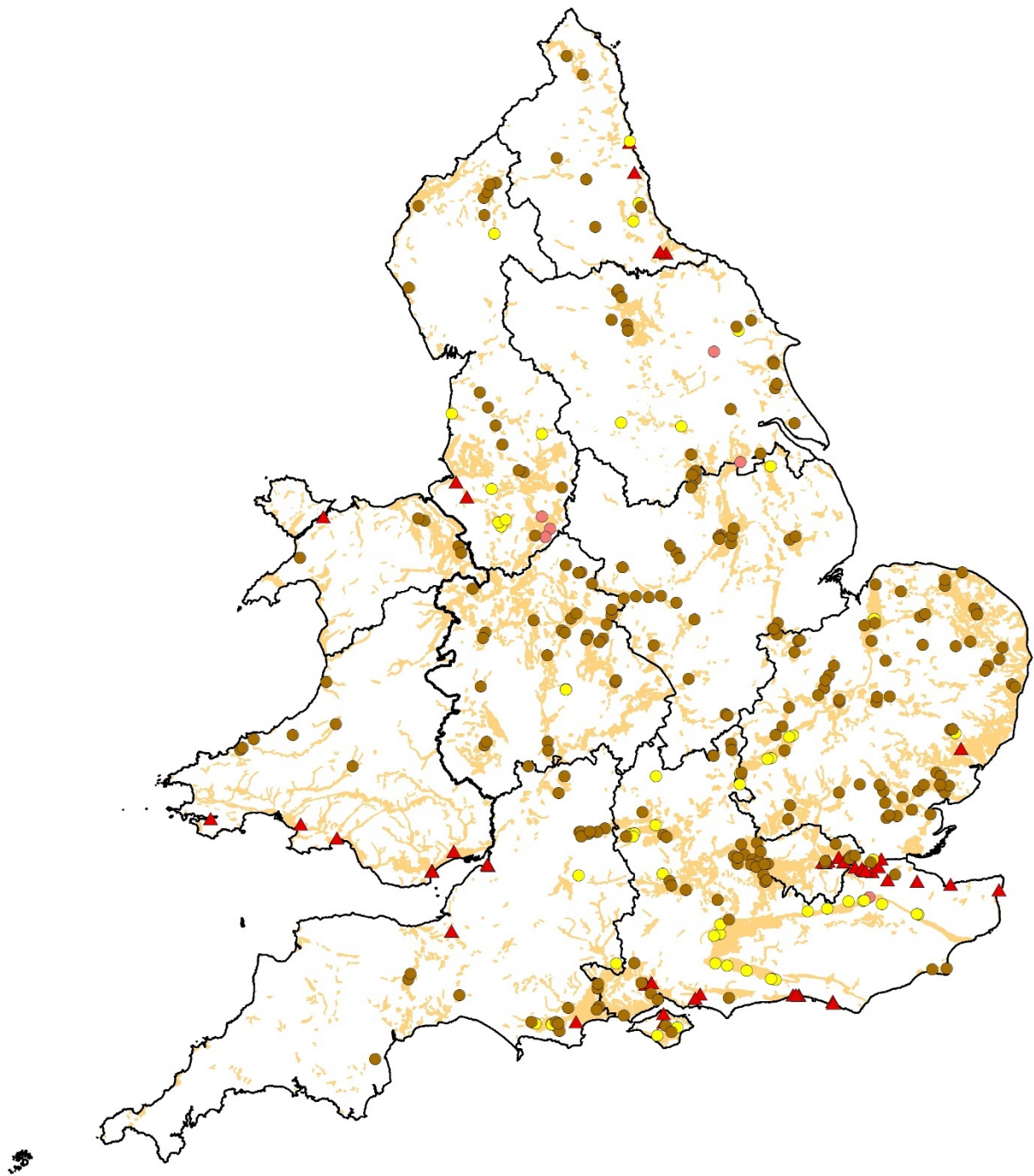
Map 1 Mineral Planning Authorities, Aggregate Working Party regions and AM2019 sub-regions

- Sub Regions**
- 1 Northumberland and the National Park
 - 2 Tyne & Wear,
 - 3 Durham
 - 4 Tees Valley
 - 5 Cumbria
 - 6 Lancashire
 - 7 Greater Manchester, Merseyside, Halton & Warrington
 - 8 Cheshire (Cheshire West and Chester, Cheshire East)
 - 9 North Yorkshire, Yorkshire Dales and North York Moors Parks
 - 10 West Yorkshire
 - 11 (Humber) East Riding, North Lincolnshire and North East Lincolnshire
 - 12 South Yorkshire
 - 13 Derbyshire and Peak District National Park
 - 14 Nottinghamshire
 - 15 Lincolnshire
 - 16 Leicestershire and Rutland
 - 17 Northamptonshire
 - 18 Staffordshire
 - 19 Shropshire
 - 20 Remainder of West Midlands
 - 21 Warwickshire
 - 22 Worcestershire
 - 23 Herefordshire
 - 24 Norfolk
 - 25 Cambridgeshire and Peterborough
 - 26 Bedfordshire (Central Bedfordshire, Bedford and Luton)
 - 27 Suffolk
 - 28 Essex, Southend and Thurrock
 - 29 Hertfordshire
 - 30 Buckinghamshire and Milton Keynes
 - 31 Oxfordshire
 - 32 Berkshire
 - 33 Hampshire and the Isle of Wight
 - 34 Surrey
 - 35 Kent and Medway
 - 36 East Sussex and Brighton & Hove
 - 37 West Sussex
 - 38 West London
 - 39 East London
 - 40 Gloucestershire
 - 41 Avon
 - 42 Wiltshire
 - 43 Somerset
 - 44 Dorset
 - 45 Devon
 - 46 Cornwall
 - 47 North East Wales
 - 48 North West Wales
 - 49 South East Wales
 - 50 Remainder of South Wales

- Aggregate Working Party (AWP) Regions**
- NEA North East
 - NWE North West
 - YHU Yorkshire & the Humber
 - EMD East Midlands
 - WMD West Midlands
 - NWL North Wales
 - SWL South Wales
 - EEN East of England
 - LON London
 - SEA South East
 - SWE South West
- AWP Region
 Sub-Region
 Mineral Planning Authority



Map 2 Location of active sand and gravel quarries included in the survey



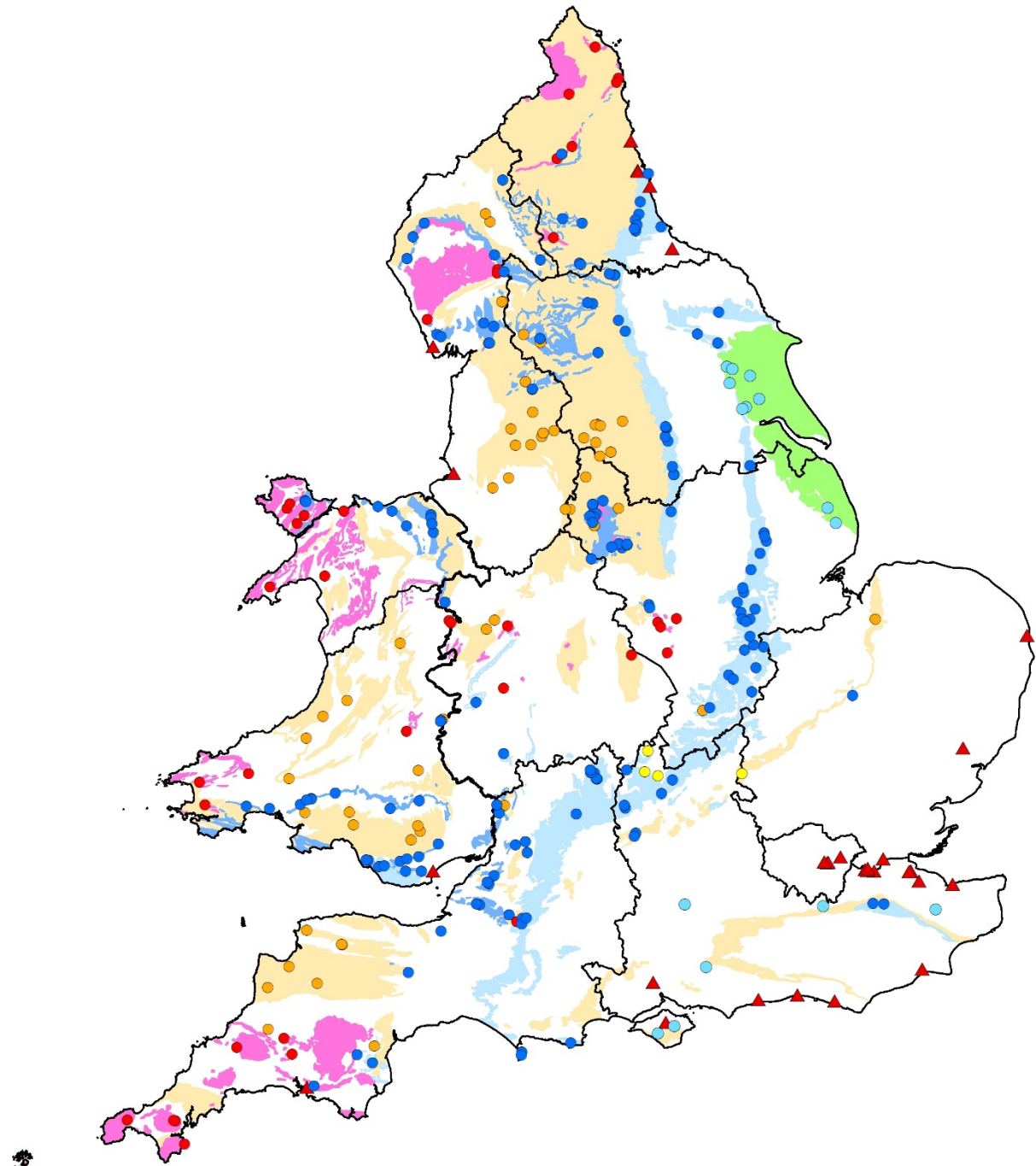
DESCRIPTION

- Sand and gravel
- Sand
- Silica sand
- ▲ Marine wharf landing sand and gravel

■ Sand and gravel

Extensive areas are shown as having no mineral resource present, but some mineral workings occur in these areas. The presence of these operations generally reflect very local or specific situations.

Map 3 Location of active crushed rock quarries included in the survey

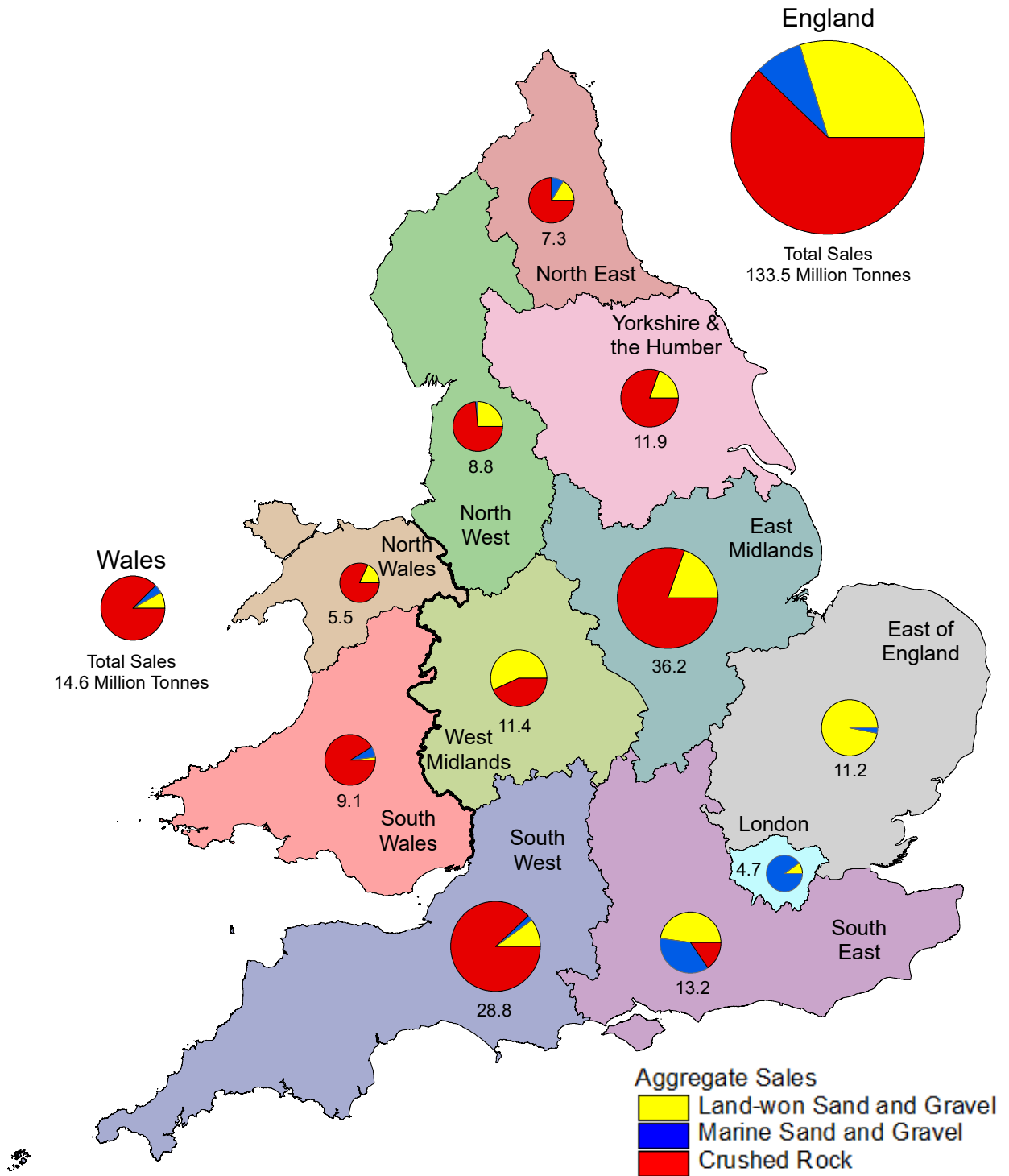


DESCRIPTION

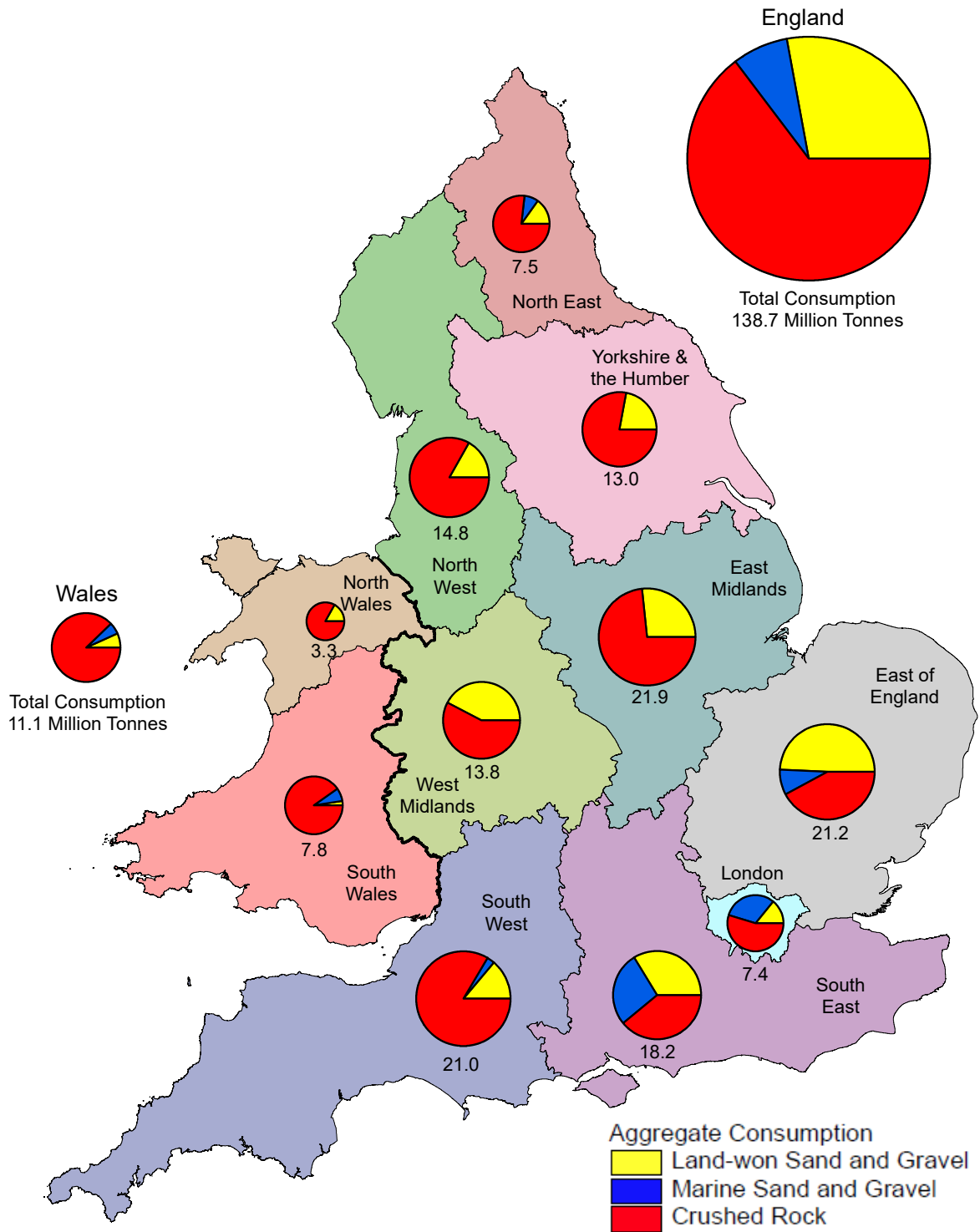
- Limestone (including dolomite)
- Igneous rock (including metamorphic rock)
- Sandstone (includes greywacke, gritstone and quartzite)
- Chalk
- Ironstone
- ▲ Marine wharf landing crushed rock
- Cretaceous (Chalk)
- Igneous and metamorphic rock
- Carboniferous Limestone
- Other limestones
- Sandstone

Extensive areas are shown as having no mineral resource present, but some mineral workings occur in these areas. The presence of these operations generally reflect very local or specific situations. Chalk is generally unsuitable for use as aggregate, therefore only the harder, less porous chalk resource quarried for less demanding aggregate applications is shown on the map. Younger chalk resource does exist in the East of England, South West and South East England regions. However, it is much softer and is not really a source for aggregates, therefore, it is not shown.

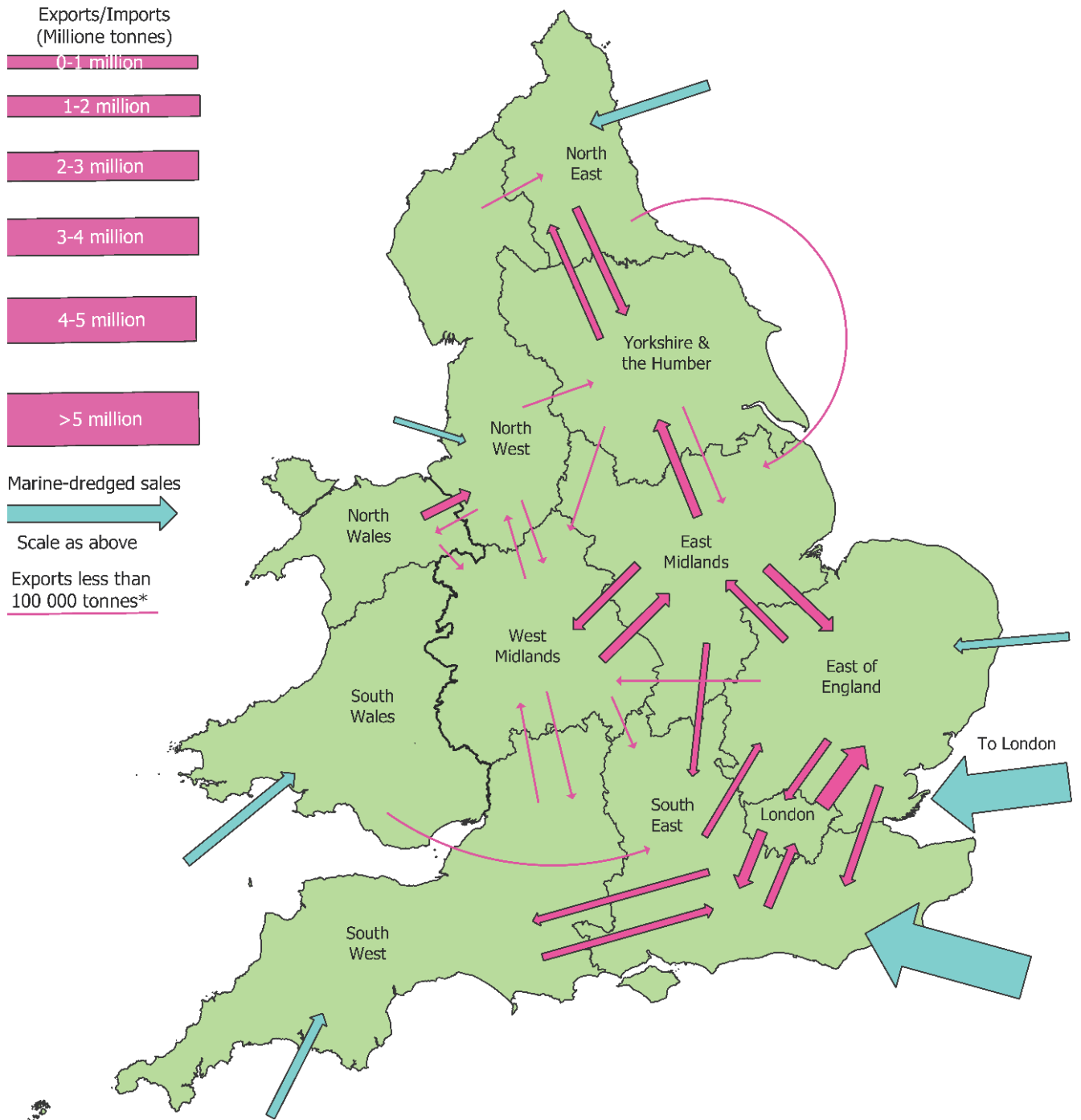
Map 4 Sales of sand and gravel and crushed rock for primary aggregates, 2019



Map 5 Consumption of sand and gravel and crushed rock for primary aggregates, 2019

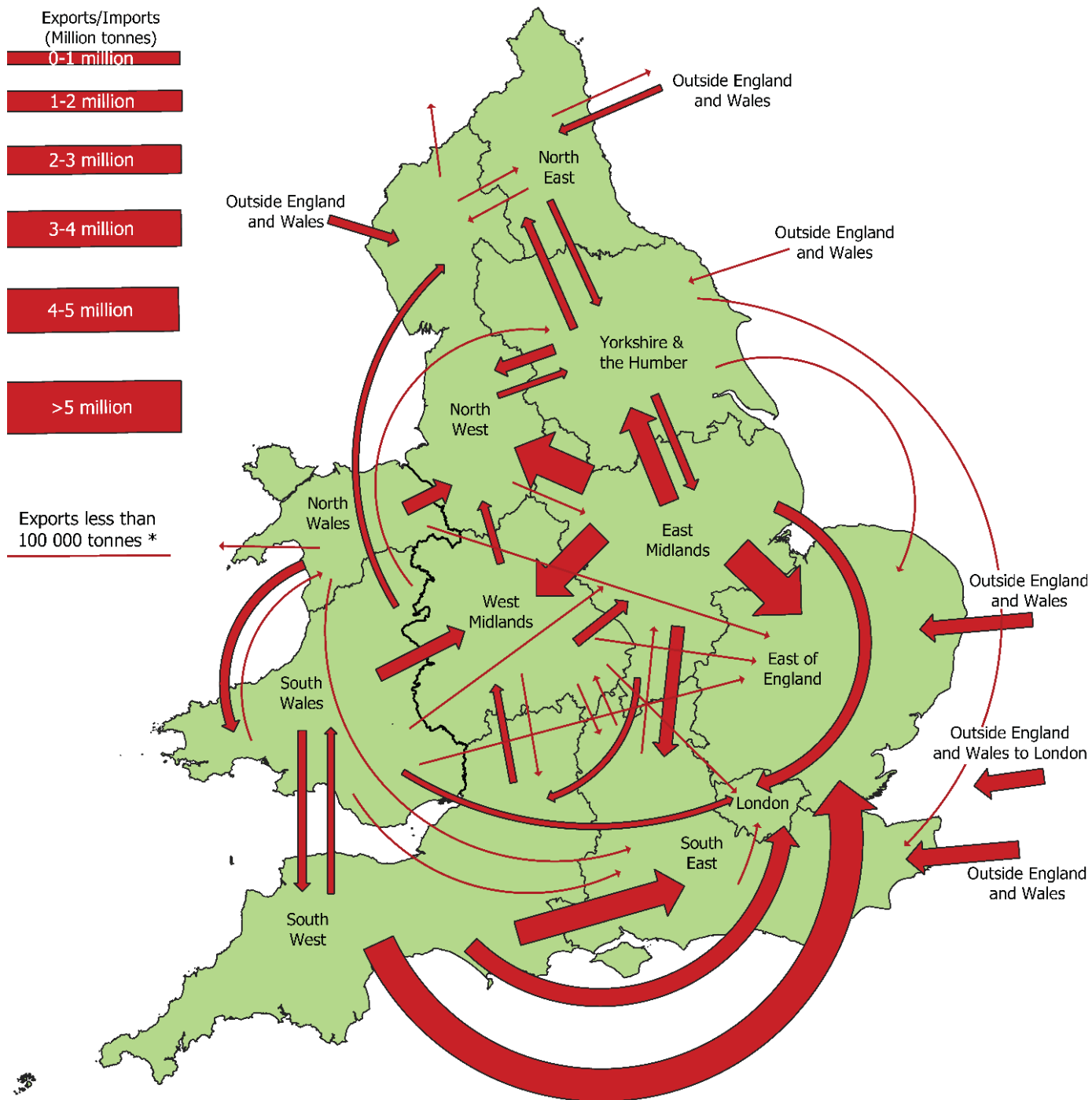


Map 6 Sand and gravel inter-regional flows of primary aggregates, 2019



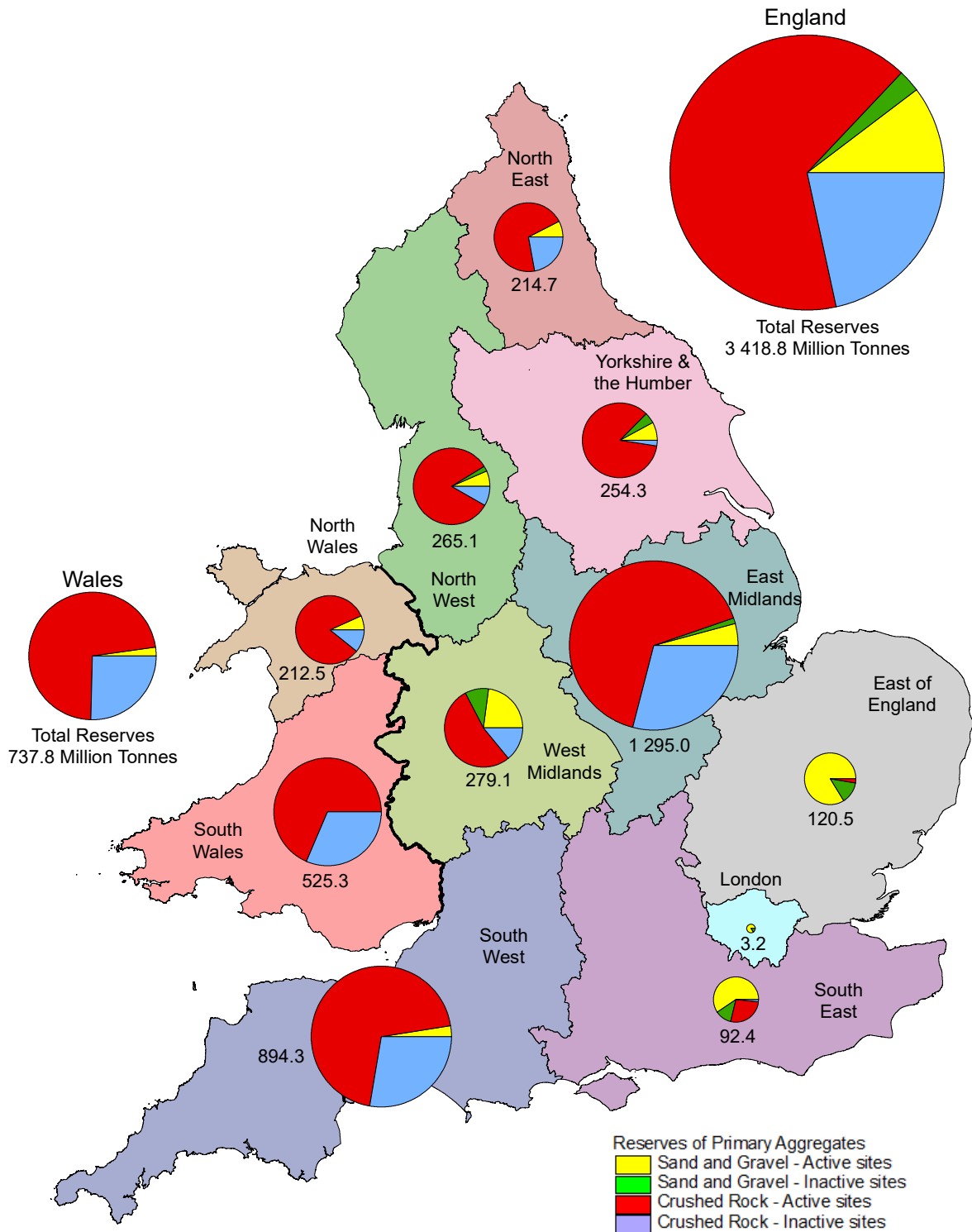
* For clarity, exports less than 25 000 tonnes are not shown.

Map 7 Crushed rock inter-regional flows of primary aggregates, 2019

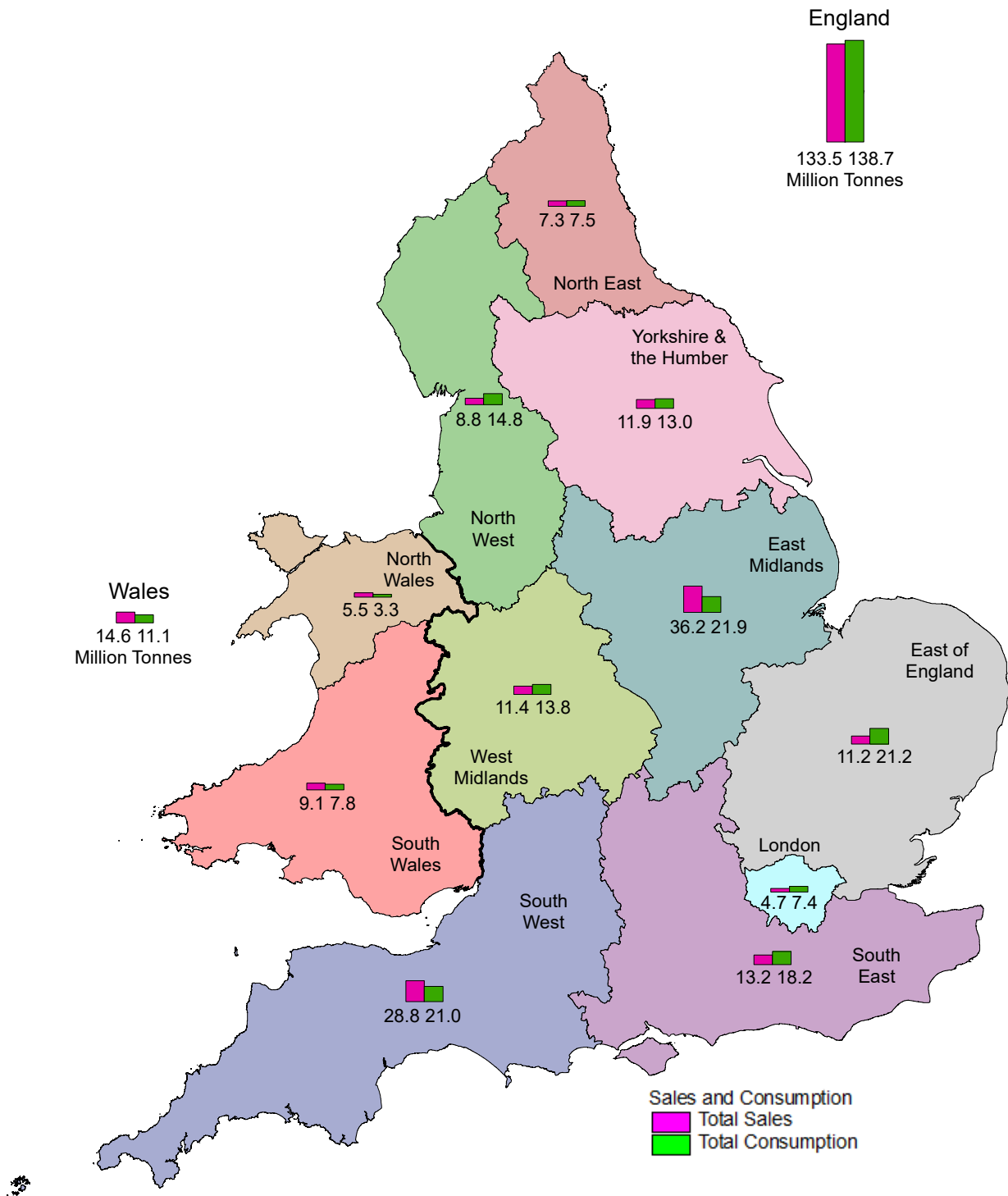


* For clarity, exports less than 25 000 tonnes are not shown.

Map 8 Permitted reserves of primary aggregates in England and Wales – active and inactive sites, 2019



Map 9 Sales and consumption of primary aggregates, 2019



*Figures for consumption are slightly underestimated because of the unknown destination of some sales (i.e. unallocated sales = c. 3.3 Mt).

Figure 1 Planning permission expiry dates for active quarries, 2019

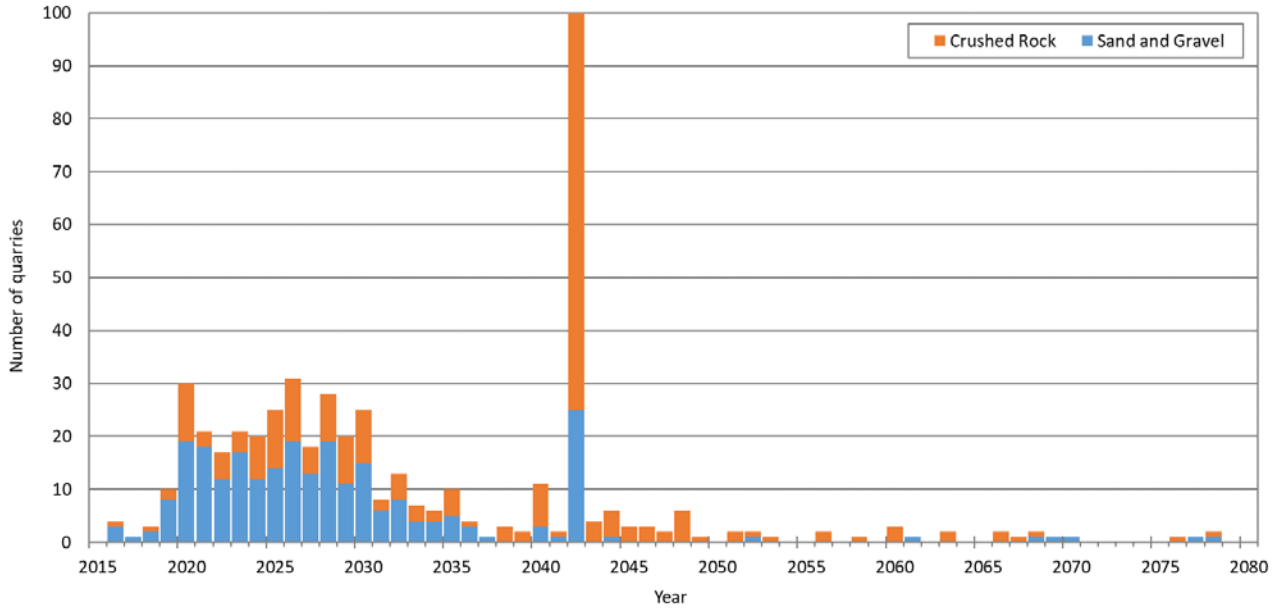


Figure 2 Planning permission expiry dates for active sand and gravel quarries, 2019

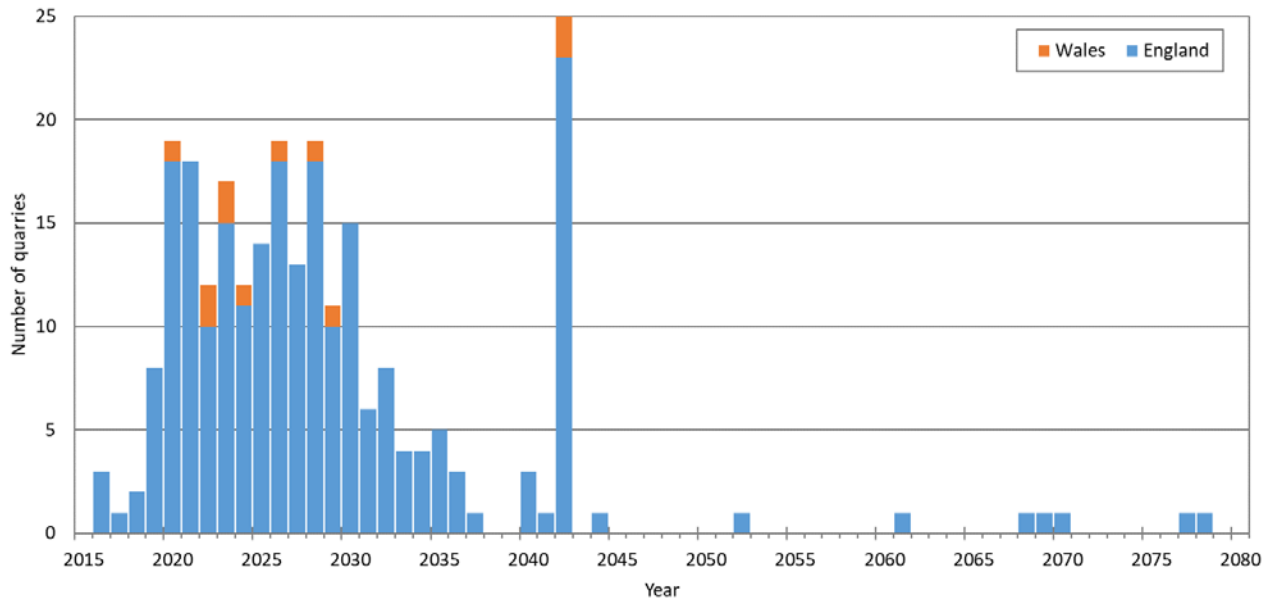
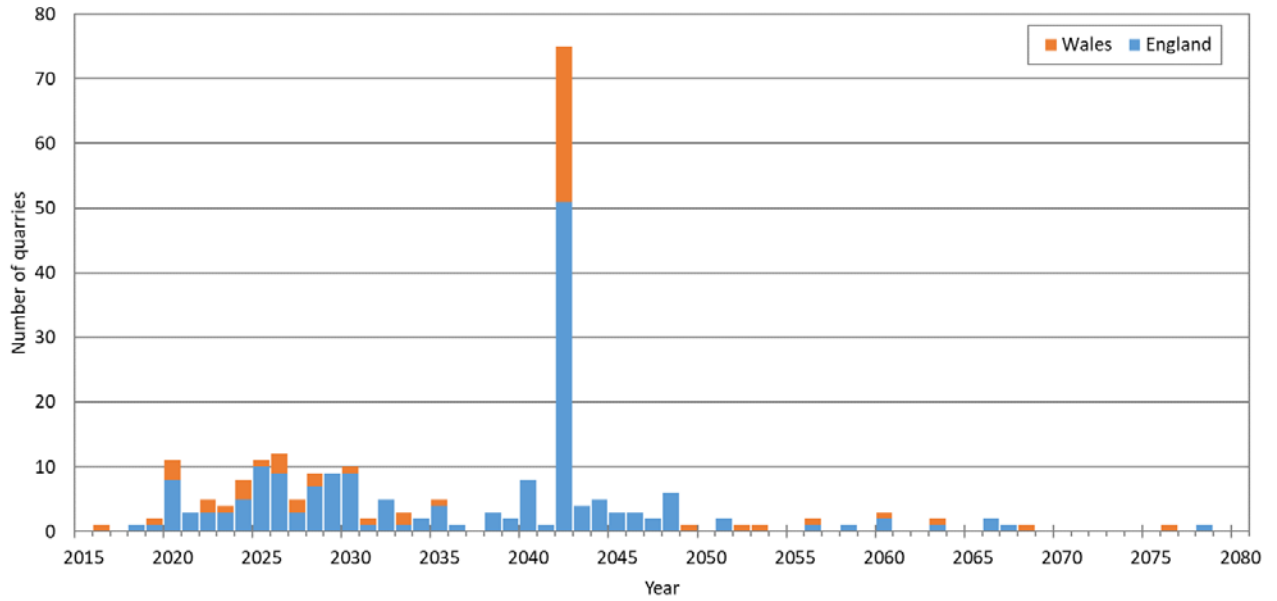


Figure 3 Planning permission expiry dates for active crushed rock quarries, 2019



The Town and Country Planning (Minerals) Act 1981 made provision to impose an end-date on all planning permissions for mineral working which did not have their own specified end-date. This was set at February 2042, sixty years after the power came into effect, by which time all investment in a minerals operation would have been amortised. As a result, a large number of mineral permissions will all expire on the same day in 2042, hence the spike depicted in the charts above. Many sites will by then have been worked out or nearly so, though some may still have reserves available. This will provide an opportunity to reconsider the future of working at these sites, judging them against the policies prevailing at that time.

12 General Notes on the Tables

A glossary of terms and abbreviations is provided as Appendix G. The following conventions have been used in the tables:

- '0' Figure is less than 500 tonnes for all sales and consumption information and less than 0.5 Mt for reserves data.
- ' ' A blank entry denotes a nil figure. (On rare occasions, a blank entry may conceal a confidential figure in order to allow publication of a regional total. Table footnotes indicate where this applies).
- 'c' Indicates a confidential figure. Totals include concealed confidential figures wherever possible.

Figures in the tables may not fully sum to the row or column total due to rounding.

The rationale behind the presentation of tables is as follows:

Tables 1 to 3 provide a summary of the main findings of the survey in respect of primary aggregate sales, consumption, and exports and imports by region.

Tables 4 and 5 present details by mineral type of sales (within and outside the Home region) and consumption and import data for each region.

Tables 6 to 8 present sales by major end use, environmental designation and transport method.

Table 9 provides details of aggregate flows from each Mineral Planning Authority to principal destination sub-region.

Tables 10 and 11 show imports and consumption of aggregates by sub-region.

Tables 12 and 13 show permitted reserves by site type (active/inactive) and environmental designation.

Tables 14 and 15 show total tonnages of primary aggregates granted and refused planning permission between 2015 and 2019 inclusive.

Table 16 and 17 show total tonnages of primary aggregates awaiting planning permission and those withdrawn.

Tables 18 and 19 show total tonnages allocated to non-aggregate uses granted and refused planning permission between 2015 and 2019 inclusive.

Table 20 and 21 show total tonnages allocated to non-aggregate uses awaiting planning permission and those withdrawn.

Table 22 shows the number of active land-based quarries and marine wharves that contributed to the survey.

Tables A1 to A5 (Appendix A) provide more detailed information on sales by product (end use) and mineral type.

Tables B1 to B4 (Appendix B) provide more comprehensive data on permitted reserves by mineral type and environmental designation.

Tables C1 to C18 (Appendix C) provide details of planning permissions and refusals for primary aggregates along with applications awaiting a decision or which were withdrawn by site type, environmental designation and within a development plan allocated area.

Tables D1 to D3 (Appendix D) provide comparison of sales, consumption and reserves for 1973, 1977, 1985, 1989, 1993, 1997, 2001, 2005, 2009, 2014 and 2019.

Tables E1 to E3 (Appendix E) provide comparison of sales, consumption and reserves for 2001, 2005, 2009, 2014 and 2019.

Table 1 Comparison of sales and consumption of primary aggregates in 2019

Region	Sales Total primary aggregates (thousand tonnes)	Consumption Total primary aggregates (thousand tonnes)	Sales as % of consumption	Net imports as % of consumption	Net exports as % of sales
South West	28 754	20 961	137%	-	27%
South East	13 231	18 170	73%	27%	-
Greater London	4 711	7 358	64%	36%	-
East of England	11 229	21 188	53%	47%	-
East Midlands	36 227	21 946	165%	-	39%
West Midlands	11 395	13 806	83%	17%	-
North West	8 801	14 796	59%	41%	-
Yorkshire & the Humber	11 858	12 989	91%	9%	-
North East	7 289	7 499	97%	3%	-
England	133 495	138 712	96%		
South Wales	9 099	7 787	117%	-	14%
North Wales	5 543	3 341	166%	-	40%
Wales	14 642	11 128	132%		
England and Wales	148 137	149 840	99%		

1. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of aggregates from outside England and Wales.

2. Consumption includes sales within the home region, imports from other regions and imports from outside England and Wales. The figure for total consumption slightly underestimates true consumption because for some regions unallocated sales have an unknown destination. Taking into account unallocated sales, the total consumption of primary aggregates was 153.2 million tonnes.

3. 96.5% of total sales is based on figures supplied by site operators. The remaining 3.5% is based on estimates made by Mineral Planning Authorities.

4. Consumption is calculated using sales by destination data. 96.6% of total sales by destination is based on figures supplied by site operators. The remaining 3.4% is based on estimates made by Mineral Planning Authorities.

Table 2a Summary of sales of primary aggregates in 2019

Thousand tonnes					
Region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregate
South West	2 870	563	3 433	25 321	28 754
South East	6 311	4 893	11 205	2 026	13 231
Greater London	475	4 237	4 711		4 711
East of England	10 774	350	11 125	104	11 229
East Midlands	7 063		7 063	29 164	36 227
West Midlands	6 476		6 476	4 919	11 395
North West	2 238	97	2 335	6 466	8 801
Yorkshire & the Humber	2 312		2 312	9 546	11 858
North East	1 187	633	1 820	5 468	7 289
England	39 708	10 773	50 480	83 015	133 495
%	97%	94%	97%	87%	90%
South Wales	181	608	789	8 310	9 099
North Wales	999	22	1 021	4 522	5 543
Wales	1 180	630	1 810	12 832	14 642
%	3%	6%	3%	13%	10%
England and Wales	40 887	11 403	52 290	95 847	148 137

1. For aggregate use only.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of aggregates from outside England and Wales.

3. These figures do not include the use of alternative, but still mineral-based, sources of aggregates. In England in 2019, 1.8 million tonnes of china clay waste (sand and rock from Cornwall and Devon) and of ball clay sand (from Devon) were used for aggregate purposes. (Ball clay sand was also produced in Dorset but in this county sand and gravel associated with ball clay production is recorded under primary aggregate sales, therefore the same approach has been taken in this national collation.) 0.23 million tonnes of slate waste were also used for aggregate purposes in England and 0.24 million tonnes in Wales. In England and Wales, 0.12 million tonnes of by-product clay / shale was also used for aggregate fill.

4. 96.5% of total sales is based on figures supplied by site operators. The remaining 3.5% is based on estimates made by Mineral Planning Authorities.

Table 2b Summary of consumption of primary aggregates in 2019

Thousand tonnes					
Region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregate
South West	2 904	542	3 446	17 515	20 961
South East	6 144	4 935	11 079	7 091	18 170
Greater London	1 040	2 295	3 335	4 023	7 358
East of England	10 441	1 814	12 256	8 932	21 188
East Midlands	5 845		5 845	16 100	21 946
West Midlands	5 846	3	5 849	7 957	13 806
North West	2 466	89	2 556	12 240	14 796
Yorkshire & the Humber	2 863	40	2 903	10 086	12 989
North East	1 135	593	1 729	5 771	7 499
England	38 687	10 312	48 999	89 714	138 712
%	98%	95%	97%	90%	93%
South Wales	192	570	762	7 025	7 787
North Wales	558	30	588	2 752	3 341
Wales	751	599	1 350	9 778	11 128
%	2%	5%	3%	10%	7%
England and Wales	39 437	10 911	50 349	99 491	149 840

1. For aggregate use only.

2. Consumption data includes sales within the home region, imports from other regions and imports from outside England and Wales. The figure for total consumption slightly underestimates true consumption because for some regions unallocated sales have an unknown destination. Taking into account unallocated sales, the total consumption of primary aggregates was 153.2 million tonnes.

3. Total unallocated sales = Sand and gravel 1.91 million tonnes
Crushed rock 1.43 million tonnes

4. Consumption is calculated using sales by destination data. 96.6% of total sales by destination is based on figures supplied by site operators. The remaining 3.4% is based on estimates made by Mineral Planning Authorities.

Table 3 Summary of exports and imports of primary aggregates in 2019

Thousand tonnes

Region	Exports		Imports	
	Sand and gravel	Crushed rock	Sand and gravel	Crushed rock
South West	296	8 417	310	610
South East	1 692	220	1 567	5 284
Greater London	2 130		754	4 023
East of England	1 145	20	2 277	8 848
East Midlands	2 184	14 272	966	1 209
West Midlands	1 239	1 127	612	4 165
North West	279	439	500	6 213
Yorkshire & the Humber	307	1 777	898	2 317
North East	384	356	292	658
England	9 657	26 628	8 175	33 325
South Wales	42	2 024	15	739
North Wales	473	1 839	40	69
Wales	515	3 863	55	808
England and Wales	10 172	30 491	8 230	34 134

1. Sand and gravel includes land-won and marine-dredged sales.
2. Exports and imports do not include quantities of unallocated sales to unknown destinations.
3. Exports include minor quantities to areas outside England & Wales (0.17 million tonnes).
4. Imports include aggregates imported from outside England and Wales (4.8 million tonnes), principally crushed rock.

Table 4a Sales of aggregates and aggregate minerals by region in 2019: South West

Thousand tonnes

	Aggregate mineral	Aggregates	Non-aggregates	Total
Sand and gravel	Land-won	2 870	396	3 266
	Marine-dredged	563	1	564
	Total	3 433	397	3 830
Crushed Rock	Limestone / dolomite	22 719	575	23 294
	Igneous rock	2 157	9	2 166
	Sandstone	446	12	458
	Chalk			
	Ironstone			
	Total	25 321	596	25 917
Total Aggregates		28 754	993	29 747
<i>Percent</i>		<i>97%</i>	<i>3%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region												
			Total sales	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land-won	2 602	1	267	231		0	0	29	0	0		6		
	Marine-dredged	535		28	21				3				3		
	Total	3 137	1	295	252		0	0	32	0	0		10		
Crushed rock	Limestone / dolomite	14 815		7 904	2 319	1 633	3 542	1	253	0			155		0
	Igneous rock	1 651	320	186	179			7	0						
	Sandstone	439	1	7	7										
	Chalk														
	Ironstone														
	Total	16 905	321	8 096	2 504	1 633	3 542	8	253	0			155		0
Total Aggregates		20 042	322	8 390	2 756	1 633	3 542	8	285	0	0		165		0

1. In addition about 1.8 million tonnes of china clay waste (sand and rock) and 0.01 million tonnes of slate were used as aggregate.

Table 4b Sales of aggregates and aggregate minerals by region in 2019: South East

Thousand tonnes				
Aggregate mineral	Aggregates	Non-aggregates	Total	
Sand and gravel	Land-won	6 311	318	6 629
	Marine-dredged	4 893	284	5 177
	Total	11 205	602	11 806
Crushed Rock	Limestone / dolomite	1 916	17	1 933
	Igneous rock			
	Sandstone	1		1
	Chalk	10		10
	Ironstone	100		100
	Total	2 026	17	2 044
Total Aggregates	13 231	619	13 850	
<i>Percent</i>	<i>96%</i>	<i>4%</i>	<i>100%</i>	

Sales of aggregates within and outside home region

Thousand tonnes															
Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region												
			Total sales	South West	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land-won	5 314	377	620	196	238	165	4	5	11			1		0
	Marine-dredged	4 198	491	204	6	175	23								
	Total	9 512	868	825	202	413	188	4	5	11			1		0
Crushed rock	Limestone / dolomite	1 697		219	10	25	18	96	70						
	Igneous rock														
	Sandstone	1													
	Chalk	10													
	Ironstone	100													
	Total	1 807		219	10	25	18	96	70						
Total Aggregates	11 319	868	1 044	212	438	206	100	75	11			1			

1. Marine-dredged sand and gravel sales include a small quantity landed from Belgium and Danish waters.

2. Limited information was received on sales of marine sand and gravel in the region. Crown Estate landings (not all sold) were 6 118 388 tonnes. This figure is not included in this or any other table.

Table 4c Sales of aggregates and aggregate minerals by region in 2019: London

Thousand tonnes

Aggregate mineral		Aggregates	Non-aggregates	Total
Sand and gravel	Land-won	475		475
	Marine-dredged	4 237	0	4 237
	Total	4 711	0	4 711
Crushed Rock	Limestone / dolomite			
	Igneous rock			
	Sandstone			
	Chalk			
	Ironstone			
Total				
Total Aggregates		4 711	0	4 711
<i>Percent</i>		<i>100%</i>	<i>0%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region												
			Total sales	South West	South East	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land-won	475													
	Marine-dredged	2 106	1	2 130		674	1 456								
	Total	2 581	1	2 130		674	1 456								
Crushed rock	Limestone / dolomite														
	Igneous rock														
	Sandstone														
	Chalk														
	Ironstone														
Total															
Total Aggregates		2 581	1	2 130		674	1 456								

Table 4d Sales of aggregates and aggregate minerals by region in 2019: East of England

Thousand tonnes

Aggregate mineral		Aggregates	Non-aggregates	Total
Sand and gravel	Land-won	10 774	636	11 411
	Marine-dredged	350	209	559
	Total	11 125	845	11 970
Crushed Rock	Limestone / dolomite	78		78
	Igneous rock			
	Sandstone	26		26
	Chalk			
	Ironstone			
Total	104		104	
Total Aggregates		11 229	845	12 074
<i>Percent</i>		<i>93%</i>	<i>7%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region												
			Total sales	South West	South East	London	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land-won	9 643	0	1 130	13	405	324	351	36	0	1				
	Marine-dredged	336		14		1	14								
	Total	9 979	0	1 145	13	406	338	351	36	0	1				
Crushed rock	Limestone / dolomite	58		20		11	7	2	0						
	Igneous rock														
	Sandstone	26													
	Chalk														
	Ironstone														
Total	84		20		11	7	2	0							
Total Aggregates		10 063		1 166	13	417	345	353	36	0	1				

Table 4e Sales of aggregates and aggregate minerals by region in 2019: East Midlands

Thousand tonnes

Aggregate mineral		Aggregates	Non-aggregates	Total
Sand and gravel	Land-won	7 063	213	7 276
	Marine-dredged			
	Total	7 063	213	7 276
Crushed Rock	Limestone / dolomite	16 540	6 973	23 513
	Igneous rock	12 442	0	12 442
	Sandstone	11	13	24
	Chalk	170	10	180
	Ironstone			
Total	29 164	6 996	36 160	
Total Aggregates		36 227	7 209	43 436
<i>Percent</i>		<i>83%</i>	<i>17%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region												
			Total sales	South West	South East	London	East of England	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land-won	4 880	435	1 750	1	150	3	626	432	2	535		0	1	0
	Marine-dredged														
	Total	4 880	435	1 750	1	150	3	626	432	2	535		0	1	0
Crushed rock	Limestone / dolomite	8 332	360	7 848	8	328	403	984	1 685	2 978	1 453	2	0	5	2
	Igneous rock	6 388		6 053	141	703	432	2 847	1 091	354	468	5	3	5	4
	Sandstone	1		9				0	0	9	0				
	Chalk	170													
	Ironstone														
Total	14 892	360	13 910	149	1 031	835	3 831	2 777	3 341	1 921	7	3	10	6	
Total Aggregates		19 771	796	15 660	150	1 181	838	4 457	3 209	3 343	2 456	7	3	10	6

Table 4f Sales of aggregates and aggregate minerals by region in 2019: West Midlands

Thousand tonnes

Aggregate mineral		Aggregates	Non-aggregates	Total
Sand and gravel	Land-won	6 476	2	6 478
	Marine-dredged			
	Total	6 476	2	6 478
Crushed Rock	Limestone / dolomite	1 172	1 082	2 254
	Igneous rock	1 704	4	1 708
	Sandstone	2 043	0	2 043
	Chalk			
	Ironstone			
Total	4 919	1 086	6 005	
Total Aggregates		11 395	1 087	12 483
<i>Percent</i>		<i>91%</i>	<i>9%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region												
			Total sales	South West	South East	London	East of England	East Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land-won	5 237	507	732	93	44	0	1	539	44	1	0	4	8	
	Marine-dredged														
	Total	5 237	507	732	93	44	0	1	539	44	1	0	4	8	
Crushed rock	Limestone / dolomite	856		316	20	0	1	0	125	163	0		5	0	1
	Igneous rock	1 363		341	1	0	0	2	334	1				2	0
	Sandstone	1 574		469	10	56	55	49	122	146	20	1	4	7	
	Chalk														
	Ironstone														
Total	3 792		1 127	31	56	55	52	582	310	21	1	10	9	1	
Total Aggregates	9 029	507	1 859	124	100	55	52	1 120	354	22	1	14	16	1	

Table 4g Sales of aggregates and aggregate minerals by region in 2019: North West

Thousand tonnes

	Aggregate mineral	Aggregates	Non-aggregates	Total
Sand and gravel	Land-won	2 238	1 487	3 725
	Marine-dredged	97		97
	Total	2 335	1 487	3 822
Crushed Rock	Limestone / dolomite	4 396	179	4 575
	Igneous rock	566		566
	Sandstone	1 504	45	1 549
	Chalk			
	Ironstone			
	Total	6 466	223	6 689
	Total Aggregates	8 801	1 711	10 511
	<i>Percent</i>	<i>84%</i>	<i>16%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region												
			Total sales	South West	South East	London	East of England	East Midlands	West Midlands	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land-won	1 966	96	176					9	34	24	80		25	4
	Marine-dredged	89		8										8	
	Total	2 056	96	183					9	34	24	80		32	4
Crushed rock	Limestone / dolomite	4 056	160	180					54	0	52	44			30
	Igneous rock	467		99	0				9		48	38			4
	Sandstone	1 505		0							0				
	Chalk														
	Ironstone														
	Total	6 027	160	280	0				62	0	100	82			34
	Total Aggregates	8 083	256	463	0				72	34	124	162			38

1. Limited information was received on sales of marine sand and gravel in the region. Crown Estate landings (not all sold) were 205 132 tonnes. This figure is not included in this or any other table.

2. In addition 0.22 million tonnes of slate were used as aggregate.

Table 4h Sales of aggregates and aggregate minerals by region in 2019: Yorkshire and the Humber

Thousand tonnes

	Aggregate mineral	Aggregates	Non-aggregates	Total
Sand and gravel	Land-won	2 312	232	2 545
	Marine-dredged			
	Total	2 312	232	2 544
Crushed Rock	Limestone / dolomite	7 992	258	8 250
	Igneous rock			
	Sandstone	1 380	41	1 421
	Chalk	174		174
	Ironstone			
	Total	9 546	299	9 845
	Total Aggregates	11 858	531	12 389
	<i>Percent</i>	<i>96%</i>	<i>4%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region												
			Total sales	South West	South East	London	East of England	East Midlands	West Midlands	North West	North East	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land-won	2 005	8	299				6	25	27	7	212			22
	Marine-dredged														
	Total	2 005	8	299				6	25	27	7	212			22
Crushed rock	Limestone / dolomite	6 689	42	1 261	0	26	0	90	401	1	369	374			1
	Igneous rock														
	Sandstone	1 007	17	356	0			8	3	1	328	7		0	8
	Chalk	72	101												
	Ironstone														
	Total	7 769	160	1 617	0	26	0	98	404	1	697	381		0	9
	Total Aggregates	9 774	167	1 917	0	26	0	104	429	29	704	593		0	31

1. Limited information was received on sales of marine sand and gravel in the region. Crown Estate landings (not all sold) were 148 597 tonnes. This figure is not included in this or any other table.

Table 4i Sales of aggregates and aggregate minerals by region in 2019: North East

Thousand tonnes

	Aggregate mineral	Aggregates	Non-aggregates	Total
Sand and gravel	Land-won	1 187	15	1 202
	Marine-dredged	633		633
	Total	1 820	15	1 835
Crushed Rock	Limestone / dolomite	3 583	351	3 934
	Igneous rock	1 886	1	1 886
	Sandstone			
	Chalk			
	Ironstone			
	Total	5 468	352	5 820
	Total Aggregates	7 289	367	7 655
	<i>Percent</i>	<i>95%</i>	<i>5%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region												
			Total sales	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land-won	843	344						37		9	297		1	
	Marine-dredged	593	40									40			
	Total	1 437	384						37		9	337		1	
Crushed rock	Limestone / dolomite	3 435	148				14				56	77		0	
	Igneous rock	1 678	208			3	0	23	1	28	107			2	44
	Sandstone														
	Chalk														
	Ironstone														
	Total	5 113	355			3	14	23	1	84	184		2	44	
	Total Aggregates	6 549	740			3	14	60	1	93	521		2	44	

Table 4j Sales of aggregates and aggregate minerals by region in 2019: South Wales

Thousand tonnes

	Aggregate mineral	Aggregates	Non-aggregates	Total
Sand and gravel	Land-won	181		181
	Marine-dredged	608		608
	Total	789		789
Crushed Rock	Limestone / dolomite	4 265	648	4 913
	Igneous rock	1 296	5	1 301
	Sandstone	2 750	79	2 828
	Chalk			
	Ironstone			
	Total	8 310	731	9 042
	Total Aggregates	9 099	731	9 831
	<i>Percent</i>	<i>93%</i>	<i>7%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region												
			Total sales	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	North Wales	Scotland	Europe
Sand and gravel	Land-won	181													
	Marine-dredged	566													
	Total	747													
Crushed rock	Limestone / dolomite	4 255								2				1	
	Igneous rock	534	8						0	532	137	18		36	
	Sandstone	1 497					105	95	32	518	18	9	4	13	
	Chalk														
	Ironstone														
	Total	6 286	8				105	95	32	1 052	154	26	4	50	
	Total Aggregates	7 033	8				105	95	32	1 052	154	26	4	50	

Table 4k Sales of aggregates and aggregate minerals by region in 2019: North Wales

Thousand tonnes

Aggregate mineral		Aggregates	Non-aggregates	Total
Sand and gravel	Land-won	999		999
	Marine-dredged	22		22
	Total	1 021		1 021
Crushed Rock	Limestone / dolomite	3 379	10	3 389
	Igneous rock	1 092		1 092
	Sandstone	50		50
	Chalk			
	Ironstone			
	Total	4 522	10	4 532
Total Aggregates		5 543	10	5 553
<i>Percent</i>		<i>100%</i>	<i>0%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region												
			Total sales	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	Scotland	Europe
Sand and gravel	Land-won	526	473							46	428				
	Marine-dredged	22													
	Total	548	473							46	428				
Crushed rock	Limestone / dolomite	1 633	1 746		32			38		10	1 053		571		45
	Igneous rock	1 001	91			2					89		0	0	
	Sandstone	50													
	Chalk														
	Ironstone														
	Total	2 683	1 839		32	2	38		10	1 142	571	0	45		
Total Aggregates		3 231	2 312		32	2	38		56	1 569	571	0	45		

1. In addition 0.24 million tonnes of slate were used as aggregate.

Table 5a Consumption of primary aggregates by region in 2019: South West

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	303	2 602	2 904
	Marine-dredged	7	535	542
	Total	310	3 137	3 446
Crushed rock	Limestone / dolomite	46	14 815	14 862
	Igneous rock	167	1 651	1 817
	Sandstone	397	439	836
	Chalk			
	Ironstone			
	Total	610	16 905	17 515
Total Aggregates		920	20 042	20 961
<i>Percent</i>		<i>4%</i>	<i>96%</i>	<i>100%</i>

Imports of primary aggregates by region: South West

Thousand tonnes

Aggregate mineral		Total	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Outside England & Wales
Sand and gravel	Land-won	303	196		13	1	93						
	Marine-dredged	7	6								1		
	Total	310	202		13	1	93				1		
Crushed rock	Limestone / dolomite	46	10			8	20		0		6		1
	Igneous rock	167				141	1	0			24		
	Sandstone	397					10		0		387		
	Chalk												
	Ironstone												
	Total	610	10				149	31	0	1	418		1
Total Aggregates		920	212		13	150	124	0	1	419			1

Table 5b Consumption of primary aggregates by region in 2019: South East

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	830	5 314	6 144
	Marine-dredged	737	4 198	4 935
	Total	1 567	9 512	11 079
Crushed rock	Limestone / dolomite	2 764	1 697	4 460
	Igneous rock	2 289		2 289
	Sandstone	230	1	231
	Chalk		10	10
	Ironstone		100	100
	Total	5 284	1 807	7 091
Total Aggregates		6 851	11 319	18 170
<i>Percent</i>		<i>38%</i>	<i>62%</i>	<i>100%</i>

Imports of primary aggregates by region: South East

Thousand tonnes

Aggregate mineral		Total	South West	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Outside England & Wales
Sand and gravel	Land-won	830	231		405	150	44						
	Marine-dredged	737	21	674	1						41		
	Total	1 567	252	674	406	150	44				41		
Crushed rock	Limestone / dolomite	2 764	2 319		11	328	0		26			32	48
	Igneous rock	2 289	179			703	0			3	6		1 398
	Sandstone	230	7				56				72		96
	Chalk												
	Ironstone												
	Total	5 284	2 504			11	1 031	56		26	3	78	32
Total Aggregates		6 851	2 756	674	417	1 181	100		26	3	120	32	1 542

Table 5c Consumption of primary aggregates by region in 2019: London

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	565	475	1 040
	Marine-dredged	189	2 106	2 295
	Total	754	2 581	3 335
Crushed rock	Limestone / dolomite	2 069		2 069
	Igneous rock	1 689		1 689
	Sandstone	265		265
	Chalk			
	Ironstone			
Total	4 023		4 023	
Total Aggregates		4 777	2 581	7 358
<i>Percent</i>		<i>65%</i>	<i>35%</i>	<i>100%</i>

Imports of primary aggregates by region: London

Thousand tonnes

Aggregate mineral		Total	South West	South East	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Outside England & Wales
Sand and gravel	Land-won	565		238	324	3	0						
	Marine-dredged	189		175	14								
	Total	754		413	338	3	0						
Crushed rock	Limestone / dolomite	2 069	1 633	25	7	403	1		0				0
	Igneous rock	1 689				432	0					2	1 254
	Sandstone	265					55				105		105
	Chalk												
	Ironstone												
Total	4 023	1 633	25	7	835	55		0		105	2	1 359	
Total Aggregates		4 777	1 633	438	345	838	55		0	105	2	1 359	

Table 5d Consumption of primary aggregates by region in 2019: East of England

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	798	9 643	10 441
	Marine-dredged	1 479	336	1 814
	Total	2 277	9 979	12 256
Crushed rock	Limestone / dolomite	4 685	58	4 743
	Igneous rock	4 010		4 010
	Sandstone	153	26	178
	Chalk			
	Ironstone			
Total	8 848	84	8 932	
Total	11 124	10 063	21 188	
<i>Percent</i>	<i>53%</i>	<i>47%</i>	<i>100%</i>	

Imports of primary aggregates by region: East of England

Thousand tonnes

Aggregate mineral		Total	South West	South East	London	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Outside England & Wales
Sand and gravel	Land-won	798	0	165		626	1		6				
	Marine-dredged	1 479		23	1 456								
	Total	2 277	0	188	1 456	626	1		6				
Crushed rock	Limestone / dolomite	4 685	3 542	18		984	0		90	14		38	
	Igneous rock	4 010				2 847	2			0			1 161
	Sandstone	153				0	49		8		95		
	Chalk												
	Ironstone												
Total	8 848	3 542	18		3 831	52		98	14	95	38	1 161	
Total Aggregates	11 124	3 542	206	1 456	4 457	52		104	14	95	38	1 161	

Table 5e Consumption of primary aggregates by region in 2019: East Midlands

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	966	4 880	5 845
	Marine-dredged			
	Total	966	4 880	5 845
Crushed rock	Limestone / dolomite	679	8 332	9 011
	Igneous rock	373	6 388	6 761
	Sandstone	157	1	159
	Chalk		170	170
	Ironstone			
Total	1 209	14 892	16 100	
Total Aggregates		2 174	19 771	21 946
<i>Percent</i>		<i>10%</i>	<i>90%</i>	<i>100%</i>

Imports of primary aggregates by region: East Midlands

Thousand tonnes

Aggregate mineral		Total	South West	South East	London	East of England	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Outside England & Wales
Sand and gravel	Land-won	966	0	4		351	539	9	25	37			
	Marine-dredged												
	Total	966	0	4		351	539	9	25	37			
Crushed rock	Limestone / dolomite	679	1	96		2	125	54	401				
	Igneous rock	373	7				334	9		23	0		0
	Sandstone	157					122		3		32		
	Chalk												
	Ironstone												
Total	1 209	8	96		2	582	62	404	23	32			0
Total Aggregates		2 174	8	100		353	1 120	72	429	60	32		0

Table 5f Consumption of primary aggregates by region in 2019: West Midlands

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	609	5 237	5 846
	Marine-dredged	3		3
	Total	612	5 237	5 849
Crushed rock	Limestone / dolomite	2 022	856	2 877
	Igneous rock	1 624	1 363	2 987
	Sandstone	519	1 574	2 092
	Chalk			
	Ironstone			
	Total	4 165	3 792	7 957
Total Aggregates		4 777	9 029	13 806
<i>Percent</i>		<i>35%</i>	<i>65%</i>	<i>100%</i>

Imports of primary aggregates by region: West Midlands

Thousand tonnes

Aggregate mineral		Total	South West	South East	London	East of England	East Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Outside England & Wales
Sand and gravel	Land-won	609	29	5		36	432	34	27			46	
	Marine-dredged	3	3										
	Total	612	32	5		36	432	34	27			46	
Crushed rock	Limestone / dolomite	2 022	253	70		0	1 685	0	1		2	10	
	Igneous rock	1 624	0				1 091			1	532		
	Sandstone	519					0		1		518		
	Chalk												
	Ironstone												
	Total	4 165	253	70		0	2 777	0	1	1	1 052	10	
Total Aggregates		4 777	285	75		36	3 209	34	29	1	1 052	56	

Table 5g Consumption of primary aggregates by region in 2019: North West

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	500	1 966	2 466
	Marine-dredged		89	89
	Total	500	2 056	2 556
Crushed rock	Limestone / dolomite	4 619	4 056	8 675
	Igneous rock	1 093	467	1 559
	Sandstone	501	1 505	2 006
	Chalk			
	Ironstone			
Total	6 213	6 027	12 240	
Total Aggregates		6 713	8 083	14 796
<i>Percent</i>		<i>45%</i>	<i>55%</i>	<i>100%</i>

Imports of primary aggregates by region: North West

Thousand tonnes

Aggregate mineral		Total	South West	South East	London	East of England	East Midlands	West Midlands	Yorkshire & Humber	North East	South Wales	North Wales	Outside England & Wales
Sand and gravel	Land-won	500	0	11		0	2	44	7	9		428	
	Marine-dredged												
	Total	500	0	11		0	2	44	7	9		428	
Crushed rock	Limestone / dolomite	4 619	0				2 978	163	369	56		1 053	
	Igneous rock	1 093					354	1		28	137	89	484
	Sandstone	501					9	146	328		18		
	Chalk	0											
	Ironstone	0											
	Total	6 213	0	11		0	3 341	310	697	84	154	1 142	484
Total Aggregates		6 713	0	11		0	3 343	354	704	93	154	1 569	484

Table 5h Consumption of primary aggregates by region in 2019: Yorkshire and the Humber

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	858	2 005	2 863
	Marine-dredged	40		40
	Total	898	2 005	2 903
Crushed rock	Limestone / dolomite	1 583	6 689	8 272
	Igneous rock	705		705
	Sandstone	29	1 007	1 037
	Chalk		72	72
	Ironstone			
Total	2 317	7 769	10 086	
Total Aggregates		3 214	9 774	12 989
<i>Percent</i>		<i>25%</i>	<i>75%</i>	<i>100%</i>

Imports of primary aggregates by region: Yorkshire and the Humber

Thousand tonnes

Aggregate mineral		Total	South West	South East	London	East of England	East Midlands	West Midlands	North West	North East	South Wales	North Wales	Outside England & Wales
Sand and gravel	Land-won	858	0			1	535	1	24	297			
	Marine-dredged	40								40			
	Total	898	0			1	535	1	24	337			
Crushed rock	Limestone / dolomite	1 583					1 453	0	52	77			
	Igneous rock	705					468		48	107	18		64
	Sandstone	29					0	20	0		9		
	Chalk												
	Ironstone												
Total	2 317					1 921	21	100	184	26		64	
Total Aggregates		3 214	0			1	2 456	22	124	521	26		64

Table 5i Consumption of primary aggregates by region in 2019: North East

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	292	843	1 135
	Marine-dredged		593	593
	Total	292	1 437	1 729
Crushed rock	Limestone / dolomite	420	3 435	3 855
	Igneous rock	226	1 678	1 904
	Sandstone	12		12
	Chalk			
	Ironstone			
Total	658	5 113	5 771	
Total Aggregates		950	6 549	7 499
<i>Percent</i>		<i>13%</i>	<i>87%</i>	<i>100%</i>

Imports of primary aggregates by region: North East

Thousand tonnes

Aggregate mineral		Total	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	South Wales	North Wales	Outside England & Wales
Sand and gravel	Land-won	292						0	80	212			
	Marine-dredged												
	Total	292						0	80	212			
Crushed rock	Limestone / dolomite	420					2		44	374			
	Igneous rock	226					5		38				182
	Sandstone	12						1		7	4		
	Chalk												
	Ironstone												
Total	658						7	1	82	381	4		182
Total Aggregates		950					7	1	162	593	4		182

Table 5j Consumption of primary aggregates by region in 2019: South Wales

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	11	181	192
	Marine-dredged	3	566	570
	Total	15	747	762
Crushed rock	Limestone / dolomite	732	4 255	4 987
	Igneous rock	4	534	538
	Sandstone	4	1 497	1 501
	Chalk			
	Ironstone			
Total	739	6 286	7 025	
Total Aggregates		754	7 033	7 787
<i>Percent</i>		<i>10%</i>	<i>90%</i>	<i>100%</i>

Imports of primary aggregates by region: South Wales

Thousand tonnes

Aggregate mineral		Total	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	North Wales	Outside England & Wales
Sand and gravel	Land-won	11	6	1			0	4					
	Marine-dredged	3	3										
	Total	15	10	1			0	4					
Crushed rock	Limestone / dolomite	732	155				0	5				571	
	Igneous rock	4					3					0	
	Sandstone	4						4					
	Chalk												
	Ironstone												
Total	739	155					3	10				571	
Total Aggregates		754	165	1			4	14				571	

Table 5k Consumption of primary aggregates by region in 2019: North Wales

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	33	526	558
	Marine-dredged	8	22	30
	Total	40	548	588
Crushed rock	Limestone / dolomite	6	1 633	1 638
	Igneous rock	43	1 001	1 044
	Sandstone	20	50	70
	Chalk			
	Ironstone			
Total	69	2 683	2 752	
Total Aggregates		110	3 231	3 341
<i>Percent</i>		<i>3%</i>	<i>97%</i>	<i>100%</i>

Imports of primary aggregates by region: North Wales

Thousand tonnes

Aggregate mineral		Total	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	Outside England & Wales
Sand and gravel	Land-won	33					1	8	25				
	Marine-dredged	8							8				
	Total	40					1	8	32				
Crushed rock	Limestone / dolomite	6					5	0				1	
	Igneous rock	43					5	2				36	0
	Sandstone	20						7		0		13	
	Chalk												
	Ironstone												
Total	69					10	9	0	0	0	50	0	
Total Aggregates		110					10	16	32	0		50	0

Table 6 Summary of sales of primary aggregates (sand & gravel and crushed rock) by major end use

Thousand tonnes

Aggregate Use	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Coarse/fine concrete aggregate	4 534	7 532	4 147	6 193	9 579	3 963	1 377	3 252	1 982	42 560	1 314	1 461	2 774	45 334
Building/asphalting sand	514	1 722	49	1 180	427	769	684	417	580	6 343	432	66	498	6 840
Roadstone/gravel coated for asphalt	2 400	66	0	233	4 445	1 841	765	1 835	604	12 190	1 810	593	2 403	14 593
Roadstone, uncoated	5 000	214			8 452	1 306	1 089	1 932	1 918	19 911	1 206	1 170	2 376	22 286
Other screened and graded aggregates	11 335	1 358	291	1 132	7 722	1 740	2 231	2 029	1 290	29 129	2 308	1 341	3 649	32 777
Railway ballast					1 440	3				1 443		8	8	1 451
Armourstone and gabion stone	55	36			82	14	33	29	23	271	17	23	41	312
Other construction uses, including fill	4 916	2 303	224	2 491	4 081	1 758	2 622	2 363	891	21 649	2 014	880	2 894	24 543
Undifferentiated aggregate use														
Total Sales	28 754	13 231	4 711	11 229	36 227	11 395	8 801	11 858	7 289	133 495	9 099	5 543	14 642	148 137

1. Sales include from land-based quarries and landings of marine-dredged sand & gravel, but not imports of aggregates from outside England and Wales.

2. Coated roadstone also includes material exported from the quarry site for coating with bituminous binder.

3. Roadstone uncoated includes rock chippings for surfacing dressing.

Table 7 Summary of sales of land-won primary aggregates by selected environmental designation in 2019

Thousand tonnes

	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Sand and gravel														
All sites	2 870	6 311	475	10 774	7 063	6 476	2 238	2 312	1 187	39 708	181	999	1 180	40 887
National Park		179		23						202	123		123	325
AONB	123	457		88		524				1 192				1 192
SSSI	473	1 067		555	934	357		211	515	4 112	1		1	4 113
SPA and SAC	240	577		228		150			298	1 494	1		1	1 495
Green Belt	158	2 352	98	1 020	482	2 060	830		310	7 310				7 310
Crushed rock														
All sites	25 321	2 026		104	29 164	4 919	6 466	9 546	5 468	83 015	8 310	4 522	12 832	95 847
National Park	c				3 361		702	3 201	c	7 820	492		492	8 312
AONB	2 810	80			140		567	599	497	4 692		64	64	4 756
SSSI	2 380	499		63	14 967	2 220	1 612	3 350	3 458	28 550	1 423	1 611	3 034	31 584
SPA and SAC	1 122				3 966		220	1 060	891	7 260		418	418	7 677
Green Belt	1 355	102			3 977		177	1 100	1 045	7 756		58	58	7 813

1. From land-based aggregate quarries only.

2. 'All sites' includes sales from all land-based mineral workings producing primary aggregates in 2019.

3. National Parks include the New Forest, the South Downs and The Broads.

4. Designations are not mutually exclusive, e.g. SSSIs may overlap with others, such as National Parks and AONBs. Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are also SSSIs. They are sub-sets of SSSIs. Some designations, notably SSSIs, may only coincide with a small part of an extant planning permission. However, the total sales for the mineral working are recorded even though there may be no extraction within the designation. The degree of overlap, and the actual or potential impacts of mineral extraction on the conservation interest of the site will vary and are not reflected in the figures.

5. Green Belt is a planning policy designation.

Table 8 Sales of primary aggregates by principal transport method in 2019

Thousand tonnes

Region	Road			Rail			Water			Total
	Sand and gravel	Crushed rock	Total	Sand and gravel	Crushed rock	Total	Sand and gravel	Crushed rock	Total	
South West	3 433	19 546	22 979		5 763	5 763		14	14	28 756
South East	10 428	4 591	15 019	777	179	956		113	113	16 089
Greater London	4 026	56	4 082	686		686				4 768
East of England	11 124	1 576	12 701		100	100				12 801
East Midlands	7 064	20 513	27 577		8 650	8 650				36 227
West Midlands	6 476	4 817	11 293		102	102				11 395
North West	2 335	6 755	9 089		199	199				9 288
Yorkshire & the Humber	2 312	7 822	10 134		1 724	1 724				11 858
North East	1 820	5 643	7 463		69	69				7 533
England	49 017	71 320	120 463	1 463	16 787	18 250		127	127	138 714
South Wales	748	8 128	8 876	41	183	224				9 100
North Wales	1 021	4 408	5 429					114	114	5 543
Wales	1 769	12 536	14 305	41	183	224		114	114	14 642
England and Wales	50 786	83 856	134 642	1 504	16 970	18 474		241	241	153 357

1. Crushed rock imported from outside England and Wales as distributed from wharves is included.

2. Marine sand and gravel as distributed from wharves is included.

3. Figures are based on sales by destination. Because of unallocated sales of unknown destination and small amounts for non-aggregate use being included, there will be differences in some regions compared with product sales.

4. 96.6% of total sales by principal transport method is based on figures supplied by site operators. The remaining 3.4% is based on estimates made by Mineral Planning Authorities.

Table 9a Sales of primary aggregates by MPA and principal destination sub-region in 2019: South West

Thousand tonnes												
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %	
South West	Bournemouth, Christchurch and Poole ^(a)	Dorset	c	93%		c	85%					
		South West				c	0%					
		Elsewhere	c	7%		c	15%					
	MPA Total					c			c			
	Bristol City Council	West of England (Avon)	South West				206	45%				
			Elsewhere				232	51%				
			MPA Total				455			81%		
		Cornwall Council	Cornwall	South West							784	54%
	Elsewhere									296	20%	
	MPA Total									1 458		6%
Dartmoor National Park ^(b)	Devon, Plymouth, Torbay and Dartmoor National Park		Unallocated							c	100%	
		MPA Total							c		c	
Devon County Council ^(b)	Devon, Plymouth, Torbay and Dartmoor National Park	South West	355	71%					2 221	87%		
		Elsewhere	142	28%					314	12%		
		MPA Total	500		17%				2 552		10%	
	Dorset Council ^(a)	Dorset	South West	2	0%					17	1%	
Elsewhere			642	54%		59	85%		123	59%		
MPA Total			424	44%		0	0%		75	36%		
Unallocated		MPA Total	22	1%		10	15%		10	5%		
	MPA Total	1	0%					207		1%		
MPA Total			1 090		40%	69		12%	207		1%	

Table 9a Sales of primary aggregates by MPA and principal destination sub-region in 2019: South West

Thousand tonnes											
<i>Source Region</i>	<i>Source MPA</i>	<i>Destination</i>	<i>Land-won sand and gravel</i>	<i>MPA %</i>	<i>AWP %</i>	<i>Marine sand and gravel</i>	<i>MPA %</i>	<i>AWP %</i>	<i>Crushed rock</i>	<i>MPA %</i>	<i>AWP %</i>
South West continued	Gloucestershire County Council	Gloucestershire	539	59%					998	68%	
		South West	324	36%					27	2%	
		Elsewhere	46	5%					451	31%	
		Unallocated							1	0%	
MPA Total			909	32%				1 477		6%	
North Somerset Council		West of England (Avon)							1 144	65%	
		South West							567	32%	
		Elsewhere							55	3%	
MPA Total								1 767		7%	
Plymouth City Council ^(b)		Devon, Plymouth, Torbay and Dartmoor National Park							c	89%	
		South West							c	9%	
		Elsewhere							c	3%	
MPA Total								c		c	
Somerset County Council		Somerset and Exmoor National Park				37	97%		6 083	40%	
		South West				1	3%		1 844	12%	
		South East							2 253	15%	
		London							1 633	11%	
		East of England							3 396	22%	
		Elsewhere							1	0%	
MPA Total						39	7%		15 209		60%
South Gloucestershire Council		South West							2 430	92%	
		Elsewhere							221	8%	
MPA Total								2 651		10%	

Table 9a Sales of primary aggregates by MPA and principal destination sub-region in 2019: South West

Thousand tonnes

<i>Source Region</i>	<i>Source MPA</i>	<i>Destination</i>	<i>Land-won sand and gravel</i>	<i>MPA %</i>	<i>AWP %</i>	<i>Marine sand and gravel</i>	<i>MPA %</i>	<i>AWP %</i>	<i>Crushed rock</i>	<i>MPA %</i>	<i>AWP %</i>
South West continued	Wiltshire Council	Wiltshire and Swindon	132	35%							
		South West	42	11%							
		Elsewhere	197	53%							
<i>MPA Total</i>			371		13%						
AWP Total			2 870		100%	563		100%	25 322		100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

a. Dorset also includes Bournemouth, Christchurch and Poole.

b. Devon also includes crushed rock for Dartmoor National Park and Plymouth.

Table 9b Sales of primary aggregates by MPA and principal destination sub-region in 2019: South East

Thousand tonnes

Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
South East	Berkshire	Berkshire	345	59%							
		South East	125	21%							
		Elsewhere	117	20%							
	MPA Total		587		9%						
Buckinghamshire County Council	Buckinghamshire and Milton Keynes	Buckinghamshire and Milton Keynes	793	68%							
		South East	317	27%							
		Elsewhere	48	4%							
	MPA Total		1 159		18%						
East Sussex County Council ^(a)	East Sussex and Brighton and Hove	East Sussex and Brighton and Hove	146	50%		430	72%				
		South East	146	50%							
		Elsewhere				165	28%				
	MPA Total		292		5%	595		12%			
Hampshire County Council ^(b)	Hampshire and the Isle of Wight	Hampshire and the Isle of Wight	499	65%		1 356	95%				
		South East	148	19%		61	4%				
		Elsewhere	126	16%		6	0%				
	MPA Total		773		12%	1 424		29%			
Isle of Wight Council ^(b)	Hampshire and the Isle of Wight	Hampshire and the Isle of Wight	136	64%		c	100%		8	100%	
		South East	77	36%							
	MPA Total		213		3%	c		c	8		0%
Kent County Council	Kent and Medway	Kent and Medway	562	84%		891	100%		1016	87%	
		South East	15	2%		4	0%		116	10%	
		Elsewhere	95	14%					41	4%	
	MPA Total		672		11%	895	18%		1 174		58%

Table 9b Sales of primary aggregates by MPA and principal destination sub-region in 2019: South East

Thousand tonnes

Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
South East continued	Medway Council	Kent and Medway	158	75%		353	32%				
		South East	14	6%		113	10%				
		Elsewhere	38	18%		158	14%				
		Unallocated				491	44%				
	MPA Total		209		3%	1 115		23%			
	Milton Keynes Council	Unallocated	35	100%							
	MPA Total		35		1%						
	New Forest National Park	Hampshire and the Isle of Wight	50	100%							
	MPA Total		50		1%						
	Oxfordshire County Council	Oxfordshire	772	62%					260	31%	
		South East	369	60%					404	48%	
		Elsewhere	43	3%					178	21%	
		Unallocated	64	5%							
	MPA Total		1 248		20%			843		42%	
	Portsmouth City Council ^(b)	Hampshire and the Isle of Wight				c	84%				
		South East				c	16%				
		Elsewhere				c	0%				
	MPA Total					c				c	
	South Downs National Park ^(c)	South East	c	74%							
		Elsewhere	c	26%							
	MPA Total		c		c						
	Southampton City Council ^(b)	Hampshire and the Isle of Wight				c	99%				
		South East				c	1%				
		Elsewhere				c	1%				
	MPA Total					c				c	

Table 9b Sales of primary aggregates by MPA and principal destination sub-region in 2019: South East

Thousand tonnes											
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
South East continued	Surrey County Council	Surrey	211	32%					2	100%	
		South East	60	9%							
		Elsewhere	120	18%							
		Unallocated	278	42%							
	MPA Total		669		11%				2		0%
	West Sussex County Council ^(c)	West Sussex	213	53%		212	25%				
		South East	157	39%		652	75%				
		Elsewhere	34	8%		0	0%				
	MPA Total		404		6%	864		18%			
AWP Total			6 311		100%	4 893		100%	2 026		100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

a. East Sussex also includes marine-dredged sand and gravel for Brighton and Hove.

b. Hampshire also includes marine-dredged sand and gravel for the Isle of Wight, Southampton and Portsmouth.

c. West Sussex also includes land-won sand and gravel for the South Downs National Park.

Table 9c Sales of primary aggregates by MPA and principal destination sub-region in 2019: London

Thousand tonnes

Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
London	London ^(a)	London	475	100%		2 106	50%				
		South East				674	16%				
		East of England				1 456	34%				
		Elsewhere									
		Unallocated				1	0%				
	MPA Total		475								
AWP Total			475	100%		4 237	100%				

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

a. East and West London have been combined to maintain confidentiality.

Table 9d Sales of primary aggregates by MPA and principal destination sub-region in 2019: East of England

Thousand tonnes												
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %	
East of England	Bedford Borough Council ^(a)	Bedfordshire (Central Bedfordshire, Bedford and Luton)	c	33%								
		East of England	c	28%								
		Elsewhere	c	39%								
	MPA Total		c		c							
	Cambridgeshire County Council ^(b)	Cambridgeshire and Peterborough	2 176	68%						28	36%	
		East of England	463	14%						30	38%	
		Elsewhere	572	18%						20	26%	
	MPA Total		3 211		30%				78		75%	
	Central Bedfordshire Council ^(a)	Bedfordshire (Central Bedfordshire, Bedford and Luton)	931	76%								
		East of England	117	10%								
Elsewhere		169	14%									
MPA Total		1 217		11%								
Essex County Council ^(c)	Essex, Southend and Thurrock	Essex, Southend and Thurrock	2 386	81%								
		East of England	341	12%								
		Elsewhere	208	7%								
		Unallocated	0	0%								
MPA Total		2 936		27%								
Hertfordshire County Council	Hertfordshire	927	74%									
	East of England	136	11%									
	Elsewhere	182	15%									
MPA Total		1 245		12%								
Norfolk County Council	Norfolk	1 124	88%						24	94%		
	East of England	156	12%						1	6%		
	Elsewhere	0	0%									
MPA Total		1 280		12%				26		25%		

Table 9d Sales of primary aggregates by MPA and principal destination sub-region in 2019: East of England

Thousand tonnes											
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
East of England continued	Peterborough ^(b)	Cambridgeshire and Peterborough	c	67%					c	100%	
		East of England	c	2%							
		Elsewhere	c	31%							
	MPA Total		c		c				c		c
Suffolk County Council	Suffolk		472	53%		140	100%				
		East of England	413	47%							
	MPA Total		886		8%	140		40%			
Thurrock Borough Council ^(c)	Essex, Southend and Thurrock		c	100%		196	93%				
		Elsewhere				14	7%				
	MPA Total		c		c	210		60%			
AWP Total			10 774	100%		350	100%		104	100%	

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

a. Central Bedfordshire also includes land-won sand and gravel for Bedford Borough.

b. Cambridgeshire also includes land-won sand and gravel and crushed rock for Peterborough.

c. Essex also includes land-won sand and gravel for Thurrock.

Table 9e Sales of primary aggregates by MPA and principal destination sub-region in 2019: East Midlands

Thousand tonnes											
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
East Midlands	Derbyshire County Council	Derbyshire & Peak District National Park	444	57%					3 078	34%	
		East Midlands	170	22%					713	8%	
		South East							300	3%	
		East of England							604	7%	
		West Midlands							949	10%	
		North West							1 916	21%	
		Yorkshire & the Humber							1 406	15%	
		Elsewhere	165	21%					118	1%	
	MPA Total		779		11%			9 084		31%	
Leicestershire County Council	Leicestershire & Rutland	Leicestershire & Rutland	793						6 140	44%	
		East Midlands	226						1 382	10%	
		South West							144	1%	
		South East							709	5%	
		London							434	3%	
		East of England							2 857	21%	
		West Midlands							1 388	10%	
		North West							356	3%	
		Yorkshire & the Humber							469	3%	
Elsewhere	226						18	0%			
	MPA Total		1 245		18%			13 896		48%	
Lincolnshire County Council	Lincolnshire	Lincolnshire	1 190	46%					927	57%	
		East Midlands	657	26%					542	34%	
		Elsewhere	713	28%					146	9%	
	MPA Total		2 560		36%			1 615		6%	

Table 9e Sales of primary aggregates by MPA and principal destination sub-region in 2019: East Midlands

Thousand tonnes												
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %	
East Midlands continued	Northamptonshire County Council	Northamptonshire	397	59%					692	72%		
		East Midlands	19	3%								
		Elsewhere	139	21%								
		Unallocated	120	18%					266	28%		
	MPA Total			675		10%			958		3%	
	Nottinghamshire County Council	Nottinghamshire	679	38%								
		East Midlands	305	17%								
		Elsewhere	506	28%								
		Unallocated	315	17%								
	MPA Total			1 804		26%						
	Peak District National Park	Derbyshire & Peak District National Park								1 219	36%	
			East Midlands							95	3%	
			London							275	8%	
			East of England							216	6%	
			West Midlands							440	13%	
North West									1 069	32%		
Elsewhere									47	1%		
MPA Total								3 361		12%		
Rutland CC DC	East Midlands								105	42%		
		Elsewhere							50	20%		
		Unallocated							95	38%		
MPA Total								250		1%		
AWP Total			7 064		100%			29 164		100%		

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9f Sales of primary aggregates by MPA and principal destination sub-region in 2019: West Midlands

Thousand tonnes											
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
West Midlands	Herefordshire Council	Herefordshire	100	64%					204	48%	
		West Midlands	50	32%					195	46%	
		Elsewhere	5	4%					26	6%	
	MPA Total		156		2%				425		9%
Shropshire County Council ^(a)	Shropshire and Telford and Wrekin	Shropshire and Telford and Wrekin	233	63%					1 843	51%	
		West Midlands	133	36%					977	27%	
		Elsewhere	4	1%					805	22%	
	MPA Total		370		6%				3 625		74%
Solihull Metropolitan Borough Council	Remainder of West Midlands	Remainder of West Midlands	257	98%							
		West Midlands	3	1%							
		Elsewhere	4	1%							
	MPA Total		264		4%						
Staffordshire County Council	Staffordshire	Staffordshire	2 810	56%					288	49%	
		West Midlands	1 095	22%					17	3%	
		Elsewhere	627	12%					289	49%	
		Unallocated	507	10%							
	MPA Total		5 039		78%				595		12%
Telford and Wrekin Council ^(a)	Shropshire and Telford and Wrekin	Shropshire and Telford and Wrekin							c	33%	
		West Midlands							c	38%	
		Elsewhere							c	29%	
	MPA Total								c		c

Table 9f Sales of primary aggregates by MPA and principal destination sub-region in 2019: West Midlands

Thousand tonnes

Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
West Midlands continued	Warwickshire County Council	Warwickshire							238	87%	
		West Midlands							30	11%	
		Elsewhere							7	2%	
	MPA Total								275		6%
	Worcestershire County Council	Worcestershire	287	44%							
		West Midlands	269	41%							
		Elsewhere	92	14%							
	MPA Total		648		10%						
AWP Total			6 476		100%				4 919		100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

a. Shropshire includes crushed rock for Telford and Wrekin.

Table 9g Sales of primary aggregates by MPA and principal destination sub-region in 2019: North West

Thousand tonnes

Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
North West	Cheshire East Council	Cheshire (Cheshire West & Chester and Cheshire East)	48	20%							
		North West	57	24%							
		Elsewhere	40	17%							
		Unallocated	96	40%							
	MPA Total		240		11%						
Cheshire West & Chester Council	Cheshire West & Chester Council	Cheshire (Cheshire West & Chester and Cheshire East)	552	70%							
		North West	196	25%							
		Elsewhere	44	6%							
	MPA Total		792		35%						
Cumbria County Council	Cumbria County Council	Cumbria and Lake District National Park	470	74%					841	40%	
		North West	73	11%					836	40%	
		Elsewhere	92	14%					254	12%	
		Unallocated							160	8%	
	MPA Total		634		28%			2 091		32%	
Greater Manchester, Merseyside, Halton & Warrington	Greater Manchester, Merseyside, Halton & Warrington	Greater Manchester, Merseyside, Halton & Warrington	13	7%		45	47%		350	70%	
		North West	168	93%		44	45%		150	30%	
		Elsewhere				8	8%				
	MPA Total		182		8%	97	100%	500		8%	
Lake District National Park	Lake District National Park	Cumbria and Lake District National Park							252	36%	
		North West							449	64%	
		Elsewhere							2	0%	
	MPA Total							702		11%	

Table 9g Sales of primary aggregates by MPA and principal destination sub-region in 2019: North West

Thousand tonnes											
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
North West continued	Lancashire County Council	Lancashire, Blackpool and Blackburn with Darwen							1 996	63%	
		North West	390	100%				1 154	36%		
		Elsewhere						23	1%		
	MPA Total		390		17%				3 173		49%
AWP Total			2 238		100%	97		100%	6 467		100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9h Sales of primary aggregates by MPA and principal destination sub-region in 2019: Yorkshire and the Humber

Thousand tonnes												
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %	
Yorkshire & the Humber	Calderdale Metropolitan Borough Council	West Yorkshire							c	100%		
	MPA Total								c		c	
	Doncaster Metropolitan Borough Council	South Yorkshire		40	13%					1 814	75%	
		Yorkshire & the Humber		229	73%					201	8%	
		Elsewhere		45	14%					352	15%	
		Unallocated								40	2%	
	MPA Total			314		14%				2 406		25%
	East Riding of Yorkshire Council ^(a)	Humber (East Riding, North Lincolnshire and North East Lincolnshire)		359	63%					72	42%	
		Yorkshire & the Humber		193	34%							
		Elsewhere		14	2%							
Unallocated			7	1%					101	58%		
MPA Total			573		25%				174		2%	
Kirklees Metropolitan Borough Council	West Yorkshire		0	100%					35	46%		
	Yorkshire & the Humber								40	53%		
	Elsewhere								1	2%		
MPA Total			0		0%				76		1%	
Leeds City Council	Yorkshire & the Humber								331	100%		
MPA Total									331		3%	
North Lincolnshire Council ^(a)	Humber (East Riding, North Lincolnshire and North East Lincolnshire)								56	69%		
	Elsewhere								25	31%		
	Unallocated		c	100%								
MPA Total			c		c				81		1%	

Table 9h Sales of primary aggregates by MPA and principal destination sub-region in 2019: Yorkshire and the Humber

Thousand tonnes											
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
Yorkshire & the Humber continued	North Yorkshire County Council	North Yorks, Yorkshire Dales and North York Moors National Parks	993	70%					1 835	63%	
		Yorkshire & the Humber	192	13%				675	23%		
		Elsewhere	241	17%				402	14%		
		Unallocated	0	0%				1	0%		
MPA Total			1 425		62%			2 913		31%	
	Wakefield M. B. Council	Yorkshire & the Humber							c	100%	
MPA Total								c			c
	Yorkshire Dales National Park	North Yorks, Yorkshire Dales and North York Moors National Parks							658	21%	
		Yorkshire & the Humber						1 688	53%		
		Elsewhere						838	26%		
		Unallocated						18	1%		
MPA Total								3 201		34%	
AWP Total			2 312		100%			9 546		100%	

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

a. East Riding of Yorkshire also includes land-won sand and gravel for North Lincolnshire.

Table 9i Sales of primary aggregates by MPA and principal destination sub-region in 2019: North East

Thousand tonnes											
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
North East	Durham County Council	Durham	141	22%					2 201	69%	
		North East	246	39%					701	22%	
		Elsewhere	239	38%					266	8%	
MPA Total			625		53%				3 168		58%
	Hartlepool Borough Council	Tees Valley							43	75%	
		North East							14	25%	
MPA Total									57		1%
	Middlesbrough Borough Council	Tees Valley				265	78%				
		North East				38	11%				
		Elsewhere				38	11%				
MPA Total						340		54%			
Tyne and Wear	Tyne and Wear	Tyne and Wear	75	30%		189	67%		502	100%	
		North East	70	28%		91	32%				
		Elsewhere	105	42%		2	1%				
MPA Total			250		21%	283		45%	502		9%
Northumberland County Council ^(a)	Northumberland and the National Park	Northumberland and the National Park	149	48%		4	35%		1 193	68%	
		North East	164	52%		7	65%		459	26%	
		Elsewhere	0	0%					90	5%	
MPA Total			312		26%	10		2%	1 742		33%

Table 9i Sales of primary aggregates by MPA and principal destination sub-region in 2019: North East

Thousand tonnes

Source Region	Source MPA	Destination	Land-won sand and gravel		Marine sand and gravel		Crushed rock			
			MPA %	AWP %	MPA %	AWP %	MPA %	AWP %	MPA %	AWP %
North East continued	Northumberland National Park ^(a)	Northumberland and the National Park					c		54%	
		North East					c		1%	
		Elsewhere					c		45%	
MPA Total								c		c
AWP Total			1 187	100%	633	100%	5 468			100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

a. Northumberland also includes crushed rock for Northumberland National Park.

Table 9j Sales of primary aggregates by MPA and principal destination sub-region in 2019: South Wales

Thousand tonnes											
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
South Wales	Blaenau Gwent	South East Wales							c	100%	
	MPA Total								c		c
	Brecon Beacons National Park	South Wales							375	99%	
		Elsewhere							2	1%	
	MPA Total								377		5%
	Bridgend	South East Wales							c	78%	
		South Wales							c	21%	
		Elsewhere							c	1%	
	MPA Total								c		c
	Caerphilly	South East Wales							200	32%	
		South Wales							418	68%	
		Elsewhere							0	0%	
	MPA Total								618		7%
	Cardiff County Council	South East Wales				226	84%		786	100%	
		South Wales				1	1%				
		Elsewhere				41	15%				
	MPA Total					269		44%	786		9%
	Carmarthenshire	Remainder of South Wales		1	100%		80	40%		492	58%
		South Wales					119	60%		349	41%
	Elsewhere								1	0%	
MPA Total			1		1%	199		33%	842		10%
Ceredigion	Remainder of South Wales		47	82%					57	92%	
	South Wales		11	18%					5	8%	
MPA Total			57		32%				62		1%
Merthyr Tydfil	South East Wales								27	75%	
	Elsewhere								9	25%	
MPA Total									36		0%

Table 9j Sales of primary aggregates by MPA and principal destination sub-region in 2019: South Wales

Thousand tonnes											
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
South Wales continued	Neath Port Talbot	South East Wales							174	50%	
		South Wales							65	19%	
		Elsewhere								111	32%
	MPA Total								349		4%
	Newport	South East Wales				98	100%				
	MPA Total					98		16%			
	Pembrokeshire	Remainder of South Wales				16	100%		224	64%	
		South Wales							123	36%	
	MPA Total					16		3%	347		4%
	Pembrokeshire Coast National Park	Remainder of South Wales	123	100%					0	0%	
		South Wales							100	100%	
	MPA Total		123		68%				100		1%
	Powys	Remainder of South Wales							649	25%	
		South Wales							256	10%	
		South West							249	9%	
		West Midlands							1 043	39%	
		North West							144	5%	
		Elsewhere							282	11%	
		Unallocated							8	0%	
	MPA Total								2 632		32%
	Rhondda, Cynon, Taf (Taff)	South East Wales							462	73%	
		Elsewhere							168	27%	
	MPA Total								629		8%

Table 9j Sales of primary aggregates by MPA and principal destination sub-region in 2019: South Wales

Thousand tonnes											
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
South Wales continued	Swansea (City of)	South East Wales				26	97%				
		South Wales				0	0%				
		Elsewhere				1	2%				
	MPA Total					27		4%			
	Vale of Glamorgan	South East Wales							521	99%	
		South Wales							4	1%	
		MPA Total							525		6%
RAWP Total			181		100%	608		100%	8 310		100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9k Sales of primary aggregates by MPA and principal destination sub-region in 2019: North Wales

Thousand tonnes											
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
North Wales	Conwy (Aberconwy & Colwyn)	North East Wales							127	17%	
		North Wales							342	45%	
		Elsewhere							288	38%	
	MPA Total								757		17%
Denbighshire		North East Wales							101	73%	
		North Wales							8	6%	
		Elsewhere							30	21%	
	MPA Total								139		3%
Flintshire ^(a)		North East Wales	c	60%					1 088	42%	
		North Wales	c	0%					65	3%	
		North West							850	33%	
		South Wales							571	22%	
		Elsewhere	c	40%					10	0%	
	MPA Total		c		c				2 584		57%
Gwynedd ^(b)		North West Wales							c	60%	
		North Wales	134	100%		22	100%		c	32%	
		Elsewhere							c	8%	
	MPA Total		134		13%	22		100%	c		c
Isle of Anglesey ^(b)		North West Wales							499	48%	
		North Wales							453	43%	
		Elsewhere							90	9%	
	MPA Total								1 042		23%

Table 9k Sales of primary aggregates by MPA and principal destination sub-region in 2019: North Wales

Thousand tonnes

Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
North Wales continued	Wrexham ^(a)	North East Wales	263	30%							
		North Wales	129	15%							
		Elsewhere	473	55%							
MPA Total			865		87%						
RAWP Total			999		100%	22		100%	4 522		100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to **other** regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

a. Wrexham includes land-won sand and gravel for Flintshire.

b. Isle of Anglesey includes crushed rock for Gwynedd.

Table 10 Imports of primary aggregates by sub-region in 2019

Thousand tonnes						
Region	Sub-region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregates
South West	West of England (Avon)	29	1	30	274	304
	Cornwall and Isles of Scilly	0		0	48	48
	Devon, Plymouth, Torbay and Dartmoor National Park	45	0	46	299	345
	Dorset	85	0	85	165	249
	Gloucestershire	147	46	193	738	931
	Somerset and Exmoor National Park	323	160	483	1 025	1 509
	Wiltshire and Swindon	383	32	416	955	1 371
	Unknown in the South West	223	0	223	2 659	2 882
	Total		1 236	240	1 476	6 163
South East	Berkshire	395	213	608	886	1 494
	Buckinghamshire and Milton Keynes	582	0	583	704	1 286
	East Sussex and Brighton and Hove	38	619	657	295	952
	Hampshire and the Isle of Wight	262	120	383	680	1 062
	Kent and Medway	167	228	395	1 515	1 911
	Oxfordshire	128	7	136	356	491
	Surrey	159	324	483	301	783
	West Sussex	93	181	273	556	830
	Unknown in the South East	431	1	432	512	945
Total		2 258	1 692	3 950	5 804	9 754
Greater London	East London	116	116	232	1 188	1 420
	West London	288	591	879	1 687	2 566
	Unknown in Greater London	324	783	1 107	1 148	2 255
	Total	727	1 490	2 218	4 023	6 240
East of England	Bedfordshire (Central Bedfordshire, Bedford and Luton)	610	69	678	798	1 476
	Cambridgeshire and Peterborough	628		628	1 782	2 410
	Essex, Southend and Thurrock	95	1 194	1 289	1 582	2 871
	Hertfordshire	222	216	437	729	1 166
	Norfolk	272		272	591	864
	Suffolk	257		257	390	647
	Unknown in the East of England	343		343	3 007	3 350
Total		2 426	1 479	3 905	8 879	12 783
East Midlands	Derbyshire and Peak District National Park	521		521	456	977
	Leicestershire and Rutland	687		687	364	1 052
	Lincolnshire	93		93	512	605

Table 10 Imports of primary aggregates by sub-region in 2019

Thousand tonnes

Region	Sub-region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregates
East Midlands continued	Northamptonshire	317		317	960	1 276
	Nottinghamshire	723		723	1 194	1 917
	Unknown in the East Midlands	1		1	559	560
	Total	2 343		2 343	4 045	6 387
West Midlands	Herefordshire	153	1	154	284	438
	Shropshire and Telford and Wrekin	109		109	687	795
	Staffordshire	93		93	1 331	1 424
	Warwickshire	308	0	308	835	1 143
	Worcestershire	103	2	104	733	838
	Remainder of West Midlands	779		779	1 488	2 267
	Unknown in the West Midlands	614		614	25	639
Total	2 159	3	2 162	5 383	7 545	
Cheshire (Cheshire West and Chester, and Cheshire East)	Cheshire (Cheshire West and Chester, and Cheshire East)	219	29	248	1 612	1 860
	Cumbria and Lake District National Park	3		3	196	199
	Greater Manchester, Merseyside, Halton & Warrington	366		366	4 021	4 387
	Lancashire, Blackpool and Blackburn with Darwen	233	15	248	1 545	1 793
	Unknown but somewhere in the North West	562		562	1 778	2 340
	Total	1 384	44	1 428	9 152	10 579
	Yorkshire & the Humber	Humber (East Riding, North Lincolnshire and North East Lincolnshire)	50		50	851
North Yorks, Yorkshire Dales and North York Moors National Parks		231	40	271	408	679
South Yorkshire		414	0	414	1 056	1 470
West Yorkshire		466		466	2 257	2 723
Unknown in Yorkshire & the Humber		311		311	994	1 305
Total	1 472	40	1 512	5 565	7 076	
North East	Durham	170	77	247	275	522
	Northumberland and the National Park	16	17	34	252	285
	Tees Valley	231		231	264	495
	Tyne and Wear	297	3	301	689	990
	Unknown in the North East	57	38	94	506	600
Total	771	135	906	1 986	2 893	
England		14 775	5 123	19 898	50 999	70 897

Table 10 Imports of primary aggregates by sub-region in 2019

Thousand tonnes

Region	Sub-region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregates
South Wales	South East Wales	3	123	126	939	1 064
	Remainder of South Wales	8	2	9	13	23
	Unknown but somewhere in South Wales	11		11	1 658	1 670
	Total	22	124	146	2 610	2 756
North Wales	North East Wales	32	8	40	118	158
	North West Wales	1		1	374	375
	Unknown but somewhere in North Wales	263	22	285	445	730
	Total	296	30	326	937	1 263
Wales	318	154	472	3 547	4 019	
England and Wales		15 093	5 277	20 370	54 546	74 917

1. Figures for imports by sub-region cannot be compared with imports by region (Tables 3 and 5). The latter show only inter-regional flows of primary aggregates. This table of imports by sub-region includes not only imports from other regions (inter-regional flows) but also flows from sub-region to sub-region within the same region.

2. In the case of sales of marine sand and gravel and crushed rock, imports are only shown where material has been moved outside the home sub-region where the wharf is located.

3. The sub-regions used for AM2019 are shown on Map 1.

Table 11 Consumption of primary aggregates by sub-region in 2019

Thousand tonnes						
Region	Sub-region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregates
South West	West of England (Avon)	29	207	236	1 417	1 653
	Cornwall and Isles of Scilly	0		0	832	832
	Devon, Plymouth, Torbay and Dartmoor National Park	401	0	401	2 521	2 922
	Dorset	727	59	786	287	1 073
	Gloucestershire	686	46	732	1 736	2 468
	Somerset and Exmoor National Park	323	197	521	7 108	7 629
	Wiltshire and Swindon	515	32	548	955	1 502
	Unknown in the South West	223	0	223	2 659	2 882
	Total		2 904	542	3 446	17 515
South East	Berkshire	741	213	953	886	1 839
	Buckinghamshire and Milton Keynes	1 376	0	1 376	704	2 079
	East Sussex and Brighton and Hove	184	1 048	1 233	295	1 528
	Hampshire and the Isle of Wight	947	1 478	2 425	688	3 113
	Kent and Medway	887	1 472	2 360	2 532	4 891
	Oxfordshire	901	7	908	616	1 524
	Surrey	370	324	694	302	996
	West Sussex	306	393	698	556	1 255
	Unknown in the South East	431	1	432	512	945
Total		6 144	4 935	11 079	7 091	18 170
Greater London	East London	394	921	1 315	1 188	2 503
	West London	322	591	913	1 687	2 600
	Unknown in Greater London	324	783	1 107	1 148	2 255
	Total	1 040	2 295	3 335	4 023	7 358
East of England	Bedfordshire (Central Bedfordshire, Bedford and Luton)	1 540	69	1 609	798	2 406
	Cambridgeshire and Peterborough	2 803		2 803	1 810	4 613
	Essex, Southend and Thurrock	2 481	1 390	3 871	1 582	5 453
	Hertfordshire	1 148	216	1 364	729	2 093
	Norfolk	1 396		1 396	616	2 012
	Suffolk	730	140	870	390	1 260
	Unknown in the East of England	343		343	3 007	3 350
	Total	10 441	1 814	12 256	8 932	21 188
East Midlands	Derbyshire and Peak District National Park	965		965	4 753	5 718
	Leicestershire and Rutland	1 480		1 480	6 504	7 984

Table 11 Consumption of primary aggregates by sub-region in 2019

Thousand tonnes						
Region	Sub-region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregates
East Midlands continued	Lincolnshire	1 283		1 283	1 438	2 722
	Northamptonshire	714		714	1 652	2 365
	Nottinghamshire	1 402		1 402	1 194	2 596
	Unknown in the East Midlands	1		1	559	560
	Total	5 845		5 845	16 100	21 946
West Midlands	Herefordshire	254	1	255	488	742
	Remainder of West Midlands	1 036		1 036	1 488	2 525
	Shropshire and Telford and Wrekin	341		341	2 530	2 871
	Staffordshire	2 903		2 903	1 620	4 523
	Warwickshire	308	0	308	1 073	1 380
	Worcestershire	390	2	392	733	1 125
	Unknown in the West Midlands Region	614		614	25	639
Total	5 846	3	5 849	7 957	13 806	
North West	Cheshire (Cheshire West and Chester, and Cheshire East)	819	29	847	1 612	2 459
	Cumbria and Lake District National Park	473		473	1 288	1 761
	Greater Manchester, Merseyside, Halton & Warrington	380	45	425	4 021	4 446
	Lancashire, Blackpool and Blackburn with	233	15	248	3 541	3 789
	Unknown but somewhere in the North West	562		562	1 778	2 340
	Total	2 466	89	2 556	12 240	14 796
Yorkshire & the Humber	Humber (East Riding, North Lincolnshire and North East Lincolnshire)	408		408	979	1 387
	North Yorks, Yorkshire Dales and North York Moors National Parks	1 224	40	1 263	2 901	4 165
	South Yorkshire	454	0	454	2 870	3 324
	West Yorkshire	466		466	2 342	2 808
	Unknown in Yorks & Humber	311		311	994	1 305
	Total	2 863	40	2 903	10 086	12 989
North East	Durham	310	77	388	2 476	2 864
	Northumberland and the National Park	165	21	186	1 444	1 630
	Tees Valley	231	265	497	306	803
	Tyne and Wear	372	192	565	1 037	1 602
	Unknown but somewhere in the North East	57	38	94	506	600
Total	1 135	593	1 729	5 771	7 499	
England		38 687	10 312	48 999	89 714	138 712

Table 11 Consumption of primary aggregates by sub-region in 2019

Thousand tonnes						
Region	Sub-region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregates
South Wales	South East Wales	3	473	475	3 933	4 408
	Remainder of South Wales	178	97	275	1 435	1 710
	Unknown but somewhere in South Wales	11		11	1 658	1 670
	Total	192	570	762	7 025	7 787
North Wales	North East Wales	295	8	302	1 434	1 736
	North West Wales	1		1	873	874
	Unknown but somewhere in North Wales	263	22	285	445	730
	Total	558	30	588	2 752	3 341
Wales		751	599	1 350	9 778	11 128
England and Wales		39 437	10 911	50 349	99 491	149 840

1. These figures are the same as the consumption totals by region in Tables 2b and 5. Very small amounts for non-aggregate use are included for a few MPAs.

2. The sub-regions used for AM2019 are shown on Map 1.

Table 12 Permitted reserves of land-won primary aggregates in active and inactive sites at 31 December 2019

Thousand tonnes

Region	Sand and Gravel					Crushed Rock					Grand total (Excluding dormant)
	Active sites	Inactive: worked in past	Inactive: yet to be worked	Total	(Dormant sites)	Active sites	Inactive: worked in past	Inactive: yet to be worked	Total	(Dormant sites)	
South West	21 935	579	3 142	25 656		622 760	245 920		868 680	119 475	894 336
South East	54 986	4 736	6 203	65 924		25 042	1 458		26 500	1 070	92 424
Greater London	2 671		525	3 196	100						3 196
East of England	100 127	11 475	4 709	116 311		3 150		1 025	4 175		120 486
East Midlands	54 396	6 784	7 106	68 286	2 100	851 114	375 654		1 226 768	26 582	1 295 024
West Midlands	64 104	24 620	2 280	91 005	2 000	148 764	39 348		188 112	7 090	279 117
North West	17 358	1 787	4 100	23 246		220 134	19 719	2 010	241 863		265 109
Yorkshire & the Humber	20 038	149	11 769	31 955	3 121	216 141	6 214		222 355	13 286	254 310
North East	16 161		670	16 831		150 765	46 404	750	197 919	16 985	214 749
England	351 776	50 130	40 504	442 410	7 321	2 237 870	734 717	3 785	2 976 372	184 488	3 418 782
%	96%	98%	100%	96%	96%	81%	80%	100%	81%	82%	82%
South Wales	2 100	100		2 200	294	358 429	164 720		523 149	30 006	525 349
North Wales	14 350	950		15 300	23	174 611	22 578		197 189	10 015	212 488
Wales	16 449	1 050		17 499	317	533 040	187 298		720 338	40 021	737 837
%	4%	2%		4%	4%	19%	20%		19%	18%	18%
England and Wales	368 225	51 180	40 504	459 909	7 638	2 770 910	922 015	3 785	3 696 710	224 509	4 156 619

1. For aggregate use only.

2. Reserves of crushed rock at active sites with a Polished Stone Value (PSV) of 60 and above were 304 Mt in England and 190 Mt in Wales. Reserves at inactive sites were 10 Mt in England and 54 Mt in Wales.

3. Dormant sites are not included in 'Inactive sites worked in the past' or in the totals.

4. Data presented on dormant sites cannot be considered complete as some regions have dormant sites where the volume of aggregates contained is not known and, therefore, could not be supplied.

5. 96.2% of total reserves (excluding dormant sites) is based on figures supplied by site operators. The remaining 3.8% is based on estimates made by Mineral Planning Authorities.

Table 13 Permitted reserves of land-won primary aggregates in active and inactive sites by environmental designation at 31 December 2019

Thousand tonnes

	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Sand and gravel														
All sites	25 656	65 924	3 196	116 311	68 286	91 005	23 246	31 955	16 831	442 410	2 200	15 300	17 499	459 909
National Park		984								984	1 390		1 390	2 374
AONB	125	3 984		31		20 901				25 041				25 041
SSSI	6 759	11 166		6 229	6 314	3 218		5 791	2 982	42 459	160		160	42 619
SPA and SAC	6 279	1 349		1 005		1 184			1 306	11 123	160		160	11 283
Green Belt	2 754	29 365	1 777	11 521	6 736	30 116	11 675	50	3 994	97 988			0	97 988
Crushed Rock														
All sites	868 680	26 500		4 175	1 226 768	188 112	241 863	222 355	197 919	2 976 372	523 149	197 189	720 338	3 696 710
National Park	9 790	c			108 282		29 030	88 655	c	237 148	48 132	100	48 232	285 381
AONB	171 733	536			1 425		13 330	11 690	24 082	222 795		912	912	223 707
SSSI	65 450	2 311		1 200	395 250	105 170	43 625	99 674	114 862	827 542	69 906	43 229	113 135	940 677
SPA and SAC	26 670				124 874		14 000	15 584	30 368	211 495		6 077	6 077	217 572
Green Belt	29 284	50		200	126 816		2 370	17 775	31 094	207 589		637	637	208 226

1. For aggregate use only.

2. Dormant sites are not included.

3. Designations are not mutually exclusive, e.g. SSSIs may overlap with others, such as National Parks and AONBs. Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are also SSSIs. They are sub-sets of SSSIs. Some designations, notably SSSIs, may only coincide with a small part of an extant planning permission. However, the total sales for the mineral working are recorded even though there may be no extraction within the designation. The degree of overlap, and the actual or potential impacts of mineral extraction on the conservation interest of the site will vary and are not reflected in the figures.

4. Green Belt is a planning policy designation.

Table 14 Total reserves of primary aggregates granted planning permission between 2015 and 2019

Thousand tonnes

Region	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	10 015	12	87 608	14	97 623	26
South East	26 874	29	682	3	27 556	32
Greater London	6 909	5			6 909	5
East of England	38 998	41	1 200	1	40 198	42
East Midlands	38 009	28	18 828	7	56 837	35
West Midlands	31 307	20	16 140	4	47 447	24
North West	7 973	8	11 440	8	19 413	16
Yorkshire & the Humber	27 889	17	41 289	21	69 178	38
North East	6 500	2	26 920	8	33 420	10
England	194 474	162	204 107	66	398 581	228
South Wales	1 960	3	65 280	4	67 240	7
North Wales	1 039	3			1 039	3
Wales	2 999	6	65 280	4	68 279	10
England and Wales	197 473	168	269 387	70	466 860	238

1. Crushed rock comprises limestone (including dolomite), igneous rock, sandstone, chalk and ironstone. Sand and gravel also includes sites for sand only.

2. 163 (97%) of sand and gravel planning permissions (equating to 195 Mt of reserves) and 67 (96%) of crushed rock planning permissions (265 Mt) were granted by MPAs with the remainder being granted following an appeal decision.

3. In addition, in the North West, one permission was granted containing 0.5 million tonnes of slate, in South Wales, one permission (0.2 Mt), and in North Wales, four permissions were granted containing a total of 0.9 million tonnes of slate. Also, one permission in Yorkshire and the Humber (28 000 tonnes) and two permissions in South Wales (0.4 Mt) of clay / shale for aggregates use were granted.

Table 15 Total quantity of primary aggregates refused planning permission between 2015 and 2019

Thousand tonnes						
Region	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	1 418	3			1 418	3
South East	6 250	3			6 250	3
London						
East of England	1 900	1			1 900	1
East Midlands	400	1	6 400	2	6 800	3
West Midlands						
North West						
Yorkshire & the Humber						
North East						
England	9 968	8	6 400	2	16 368	10
South Wales						
North Wales						
Wales						
England and Wales	9 968	8	6 400	2	16 368	10

1. Crushed rock comprises limestone (including dolomite), igneous rock, sandstone, chalk and ironstone. Sand and gravel also includes sites for sand only.

2. 7 (88%) of sand and gravel planning permissions (equating to 10 Mt of reserves) and 1 (50%) of crushed rock planning permissions (0.5 Mt) were refused by MPAs with the remainder being refused following an appeal decision.

3. In addition, in North Wales, one permission was refused containing a total of 0.12 million tonnes of slate.

Table 16 Total quantity of primary aggregates awaiting planning permission at 31 December 2019

Thousand tonnes						
Region	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	3 018	6	26 755	7	29 773	13
South East	6 475	7	1 920	3	8 395	10
London						
East of England	26 285	12			26 285	12
East Midlands	10 831	5	18 880	7	29 711	12
West Midlands	13 420	8			13 420	8
North West	775	4	5 000	1	5 775	5
Yorkshire & the Humber	711	2	2 180	5	2 891	7
North East			10 250	3	10 250	3
England	61 515	44	64 985	26	126 500	70
South Wales			21 981	4	22 981	4
North Wales			3 360	1	3 360	1
Wales			25 341	5	25 341	5
England and Wales	61 515	44	90 326	32	151 841	76

1. As at 31 December 2019.

2. Includes planning permissions awaiting a Section 106 Agreement.

3. 38 (87%) of sand and gravel planning permissions (equating to 50 Mt of reserves) and 26 (84%) of crushed rock planning permissions (87 Mt) are awaiting MPA decision. 2 (6%) crushed rock sites (0.8 Mt) are awaiting an appeal decision. For the remainder of sand and gravel and crushed rock sites, planning permission has been approved but S106 agreements are outstanding.

4. In addition, one application in South Wales containing 0.6 million tonnes of clay / shale intended for aggregates use is awaiting planning permission.

Table 17 Total quantity of primary aggregates withdrawn from the planning application process between 2015 and 2019

Region	Thousand tonnes					
	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West			1 840	2	1 840	2
South East						
London						
East of England						
East Midlands	465	1	7 650	3	8 115	4
West Midlands	n/a	1			n/a	1
North West						
Yorkshire & the Humber						
North East	1 400	1			1 400	1
England	1 865	3	9 490	5	11 355	8
South Wales						
North Wales						
Wales						
England and Wales	1 865	3	9 490	5	11 355	8

1. Only includes those planning applications withdrawn and not subsequently re-submitted.

2. n/a –tonnage not reported.

Table 18 Total reserves allocated to non-aggregate uses granted planning permission between 2015 and 2019

Thousand tonnes

Region	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West			1 012	4	1 012	4
South East	1 000	1			1,000	1
London						
East of England						
East Midlands			4 700	1	4 700	1
West Midlands	100	1			100	1
North West	6 783	2	300	1	7 083	3
Yorkshire & the Humber			550	3	550	3
North East			2 848	1	2 848	1
England	7 883	4	9 410	10	17 292	14
South Wales						
North Wales						
Wales						
England and Wales	7 883	4	9 410	10	17 292	14

1. Crushed rock comprises limestone (including dolomite), igneous rock, sandstone, chalk and ironstone. Sand and gravel also includes sites for sand only.

2. In addition, one permission Yorkshire and the Humber containing 14 thousand tonnes of clay / shale allocated to non-aggregate use was granted.

3. Tonnage figures are mutually exclusive from those reported in Table 14.

Table 19 Total quantity allocated to non-aggregate uses refused planning permission between 2015 and 2019

Thousand tonnes

Region	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West						
South East						
London						
East of England						
East Midlands						
West Midlands						
North West						
Yorkshire & the Humber						
North East						
England						
South Wales						
North Wales						
Wales						
England and Wales						

1. Crushed rock comprises limestone (including dolomite), igneous rock, sandstone, chalk and ironstone. Sand and gravel also includes sites for sand only.
2. Tonnage figures are mutually exclusive from those reported in Table 15.
3. This table is intentionally blank due to non-occurrence of the data combination.

Table 20 Total quantity allocated to non-aggregate uses awaiting planning permission at 31 December 2019

Thousand tonnes

Region	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West			4 073	4	4 073	4
South East						
London						
East of England						
East Midlands			1 400	3	1 400	3
West Midlands						
North West	5 490	2			5 490	2
Yorkshire & the Humber						
North East			11 500	2	11 500	2
England	5 490	2	16 973	9	22 463	11
South Wales			12 149	1	12 149	1
North Wales						
Wales			12 149	1	12 149	1
England and Wales	5 490	2	29 122	10	34 612	12

1. As at 31 December 2019.

2. Includes planning permissions awaiting a Section 106 Agreement.

3. Tonnage figures are mutually exclusive from those reported in Table 16.

Table 21 Total quantity allocated to non-aggregate uses withdrawn from the planning application process between 2015 and 2019

Thousand tonnes

Region	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West			4 010	2	4 010	2
South East						
London						
East of England						
East Midlands						
West Midlands						
North West						
Yorkshire & the Humber						
North East						
England			4 010	2	4 010	2
South Wales						
North Wales						
Wales						
England and Wales			4 010	2	4 010	2

1. Only includes those planning applications withdrawn and not subsequently re-submitted.

2. Tonnage figures are mutually exclusive from those reported in Table 17.

Table 22 Number of active land-won quarries and marine wharves in 2019

Region	Quarry					Marine wharf		
	Limestone	Igneous rock	Sandstone	Chalk	Ironstone	Sand & gravel	Sand & gravel	Crushed rock
South West	28	8	6			25	4	1
South East	9		1	4	3	62	22	12
Greater London						4	5	1
East of England	2		1		1	76	2	4
East Midlands	36	4	6	2		34		
West Midlands	4	3	2			27		
North West	14	3	14			21	1	2
Yorkshire & the Humber	18		13	6		22		
North East	13	8				10	4	4
England	124	26	43	12	4	281	38	24
South Wales	19	8	18			8	7	
North Wales	9	7	1			6	1	
Wales	28	15	19			14	8	
England and Wales	152	41	62	12	4	295	46	24

Appendix A - Sales

Table A1 Sales of land-won sand and gravel by product (end use) in 2019

Product	Thousand tonnes													
	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Sand														
Sand for asphalt	16	94		254	114	49	82	44	43	696		0	0	696
Sand for use in mortar (building sand)	312	1 532		926	313	720	504	373	517	5 198	12	66	79	5 276
Sand for concreting	1 287	1 364	222	3 665	2 863	1 944	594	863	475	13 280	78	600	678	13 957
Gravel														
Gravel for use in asphalt (on or off site)		25		170		0				195				195
Gravel for concrete	746	2 000	252	2 196	1 291	1 662	100	299	61	8 608	26	79	104	8 712
Other screened and graded gravels for other aggregate purposes	217	528		1 114	1 172	1 208	131	500	67	4 937	47	79	126	5 064
Sand and gravel														
Sand and gravel for constructional fill	292	768		2 450	1 310	893	826	233	23	6 794	18	175	193	6 987
Undifferentiated aggregate use														
Total for Aggregate use	2 870	6 311	475	10 774	7 063	6 476	2 238	2 312	1 187	39 708	181	999	1 180	40 887
Undifferentiated non-aggregate use	396	318		636	213	2	1 487	232	15	3 299				3 299
Total for Non-aggregate use	396	318		636	213	2	1 487	232	15	3 299				3 299
Total for all uses	3 173	6 629	475	11 411	7 276	6 478	3 725	2 545	1 202	43 007	181	999	1 180	44 187

Table A2 Sales of marine-dredged sand and gravel by product (end use) in 2019

Product	Thousand tonnes													
	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Sand														
Sand for asphalt	0	14	0							15	167		167	182
Sand for use in mortar (building sand)	187	81	49				97		20	434	252		252	686
Sand for concreting	330	1 844	2 961	96					596	5 827	126	22	148	5 975
Gravel														
Gravel for use in asphalt (on or off site)		41	0							41				41
Gravel for concrete	9	2 000	712	236						2 957	41		41	2 999
Other screened and graded gravels for other aggregate purposes	32	557	291	18					16	914	22		22	936
Sand and gravel														
Other sand and gravel for constructional fill	4	355	224				0			584	0		0	584
Undifferentiated aggregate use														
Total for Aggregate use	563	4 893	4 237	350			97		633	10 773	608	22	630	11 403
Undifferentiated non-aggregate use	1	284	0	209						494				494
Total for Non-aggregate use	1	284	0	209						494				494
Total for all uses	564	5 177	4 237	559			97		633	11 267	608	22	630	11 897

Table A3 Sales of crushed rock by product (end use) in 2019

Product	Thousand tonnes													
	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Crushed rock, coated for asphalt on site (exc. weight of binder)	1 086				1 429	701	188	52	315	3 771	620	301	921	4 692
Crushed rock, coated for asphalt off site	1 314			63	3 016	1 140	577	1 784	289	8 183	1 189	293	1 482	9 665
Crushed rock for uncoated roadstone & foundation work	4 977	214			8 080	1 056	1 075	1 863	1 907	19 171	1 096	1 160	2 256	21 427
Rock chippings for surface dressing	23				372	250	14	69	11	740	110	10	120	859
Railway ballast					1 440	3				1 443		8	8	1 451
Concrete aggregate	2 162	323			5 424	357	683	2 090	849	11 888	1 043	760	1 803	13 691
Other screened and graded aggregates	11 086	274			6 549	532	2 100	1 529	1 207	23 277	2 239	1 262	3 501	26 778
Armourstone and gabion stone	55	36			82	14	33	29	23	271	17	23	41	312
Other construction uses, including fill	4 619	1 180		41	2 771	865	1 796	2 130	868	14 271	1 995	705	2 701	16 972
Undifferentiated aggregate use														
Total for Aggregate use	25 321	2 026		104	29 164	4 919	6 466	9 546	5 468	83 015	8 310	4 522	12 832	95 847
Building stone (exc. reconstituted stone)	207	6			217	0	52	49		531	36		36	567
Cement manufacture					3 122	1 079				4 201	245		245	4 446
Agricultural use on the land and horticulture	222	12			241	3	54	139	184	856	107	8	115	971
Flux in iron and steel manufacture	123				1 102	0	116	26		1 367	343		343	1 710
For all other industrial uses	43				2 314	4	1	86	167	2 615		2	2	2 616
Undifferentiated non-aggregate use														
Total for Non-aggregate use	596	17			6 996	1 086	223	299	352	9 569	731	10	741	10 311
Total for all uses	25 917	2 044		104	36 160	6 005	6 689	9 845	5 820	92 584	9 042	4 532	13 574	106 158

Table A4 Sales of crushed rock for aggregate use by mineral in 2019

						Thousand tonnes
Region	Limestone / dolomite	Igneous rock	Sandstone	Chalk	Ironstone	Total
South West	22 719	2 157	446			25 321
South East	1 916		1	10	100	2 026
Greater London						
East of England	78		26			104
East Midlands	16 540	12 442	11	170		29 164
West Midlands	1 172	1 704	2 043			4 919
North West	4 396	566	1 504			6 466
Yorkshire & the Humber	7 992		1 380	174		9 546
North East	3 583	1 886				5 468
England	58 396	18 754	5 411	353	100	83 015
South Wales	4 265	1 296	2 750			8 310
North Wales	3 379	1 092	50			4 522
Wales	7 644	2 388	2 800			12 832
England and Wales	66 041	21 143	8 210	353	100	95 847

1. For aggregate use only.

Table A5 Sales of crushed rock for non-aggregate use by mineral in 2019

Thousand tonnes

Region	Limestone / dolomite	Igneous rock	Sandstone	Chalk	Ironstone	Total
South West	575	9	12			596
South East	17					17
Greater London						
East of England						
East Midlands	6 973	0	13	10		6 996
West Midlands	1 082	4	0			1 086
North West	179		45			223
Yorkshire & the Humber	258		41			299
North East	351	1				352
England	9 436	13	111	10		9 569
South Wales	648	5	79			731
North Wales	10					10
Wales	658	5	79			741
England and Wales	10 094	18	189	10		10 311

Appendix B – Permitted reserves

Table B1 Permitted reserves of land-won primary aggregates at 31 December 2019 by mineral

	Thousand tonnes													
	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Sand and gravel														
Sand for asphalt	21	1 008		836	29	88		925		2 907	26		26	2 933
Sand for use in mortar (building sand)	2 365	8 951		7 153	1 266	4 858		3 819	380	28 792	216	5 554	5 770	34 562
Concreting sand	10 222	6 747	23	10 070	6 454	9 593	337	3 121	1 000	47 567	435	6 589	7 023	54 590
Undifferentiated sand	2 539	7 818		1 315	5 448	5 227	12 393	8 382	11 404	54 525	1 596	100	1 696	56 221
Total sand ^(a)	15 147	24 523	23	19 373	13 197	19 766	12 731	16 246	12 784	133 791	2 272	12 243	14 515	148 305
Total gravel	6 164	8 036	46	11 741	4 394	7 621	793	11 784	911	51 490	376	2 078	2 455	53 944
Undifferentiated sand & gravel ^(b)	4 876	34 454	3 127	85 858	50 695	64 167	12 059	5 648	3 136	264 019	1 204	978	2 182	266 201
Total sand & gravel - for aggregate	25 656	65 924	3 196	116 311	68 286	91 005	23 246	31 955	16 831	442 410	2 200	15 300	17 499	459 909
Sand & gravel - for non-aggregate use	531	1 089		661		550	2 337	1 723		6 890	1 652		1 652	8 542
Crushed rock														
Limestone/dolomite - for aggregate	658 391	25 177		3 125	903 353	100 134	141 432	179 294	115 841	2 126 747	276 184	83 138	359 322	2 486 069
- for non-aggregate use	5 906	176		75	238 495		36 217	1 610	34 762	317 242	6 414	28 046	34 460	351 702
Igneous rock - for aggregate	190 008				319 508	38 992	20 949		82 077	651 534	59 665	113 951	173 615	825 149
- for non-aggregate use	4 450						6 000			10 450				10 450
Sandstone - for aggregate	20 281	176		850	2 243	48 986	79 483	36 150		188 168	187 300	100	187 400	375 569
- for non-aggregate use	895				2 155		3 790	3 585		10 425	320		320	10 744
Chalk - for aggregate		696			1 665			6 912		9 273				9 273
- for non-aggregate use		30			6 079			683		6 792				6 792
Ironstone - for aggregate		450		200						650				650
- for non-aggregate use														
Total crushed rock – for aggregate	868 680	26 500		4 175	1 226 768	188 112	241 863	222 355	197 919	2 976 372	523 149	197 189	720 338	3 696 710
- for non-aggregate use	11 251	206		75	246 728		46 007	5 877	34 762	344 908	6 734	28 046	34 780	379 688

1. Figures include reserves in Active and Inactive sites, but not Dormant sites.

2. Total sand (a) also includes undifferentiated sand.

3. Undifferentiated sand and gravel (b) is not included elsewhere.

4. Total reserves for aggregate use exclude material for non-aggregate use.

Table B2 Permitted reserves of land-won primary aggregates at 31 December 2019 by environmental designation – aggregate use

Thousand tonnes

	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Sand and gravel														
All sites	25 656	65 924	3 196	116 311	68 286	91 005	23 246	31 955	16 831	442 410	2 200	15 300	17 499	459 909
National Park		984								984	1 390		1 390	2 374
AONB	125	3 984		31		20 901				25 041				25 041
SSSI	6 759	11 166		6 229	6 314	3 218		5 791	2 982	42 459	160		160	42 619
SPA and SAC	6 279	1 349		1 005		1 184			1 306	11 123	160		160	11 283
Green Belt	2 754	29 365	1 777	11 521	6 736	30 116	11 675	50	3 994	97 988				97 988
Crushed rock														
All sites	868 680	26 500		4 175	1 226 768	188 112	241 863	222 355	197 919	2 976 372	523 149	197 189	720 338	3 696 710
National Park	9 790	c			108 282		29 030	88 655	c	237 148	48 132	100	48 232	285 381
AONB	171 733	536			1 425		13 330	11 690	24 082	222 795		912	912	223 707
SSSI	65 450	2 311		1 200	395 250	105 170	43 625	99 674	114 862	827 542	69 906	43 229	113 135	940 677
SPA and SAC	26 670				124 874		14 000	15 584	30 368	211 495		6 077	6 077	217 572
Green Belt	29 284	50		200	126 816		2 370	17 775	31 094	207 589		637	637	208 226

1. For aggregate use only.

2. Figures include reserves in Active and Inactive sites, but not Dormant sites.

3. Designations are not mutually exclusive, e.g. SSSIs may overlap with others, such as National Parks and AONBs. Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are also SSSIs. They are sub-sets of SSSIs. Some designations, notably SSSIs, may only coincide with a small part of an extant planning permission. However, the total sales for the mineral working are recorded even though there may be no extraction within the designation. The degree of overlap, and the actual or potential impacts of mineral extraction on the conservation interest of the site will vary and are not reflected in the figures.

4. Green Belt is a planning policy designation.

Table B3 Permitted reserves of land-won primary aggregates at 31 December 2019 by environmental designation – non-aggregate use

Thousand tonnes

	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Sand and gravel														
All sites	531	1 089		661		550	2 337	1 723		6 890	1 652		1 652	8 542
National Park		125								125	98		98	223
AONB		405		1						406				406
SSSI	141	441						1 310		1 892				1 892
SPA and SAC	141									141				141
Green Belt	175	473		590			1 152			2 389				2 389
Crushed rock														
All sites	11 251	206		75	246 728		46 007	5 877	34 762	344 908	6 734	28 046	34 780	379 688
National Park	480				134 110		6 000			140 590				140 590
AONB	9 083	39			75		84			9 280		13	13	9 293
SSSI	2 365	84			106 413		6 000		30 905	145 767		28 046	28 046	173 813
SPA and SAC					105 809		6 000		22 512	134 320		1 373	1 373	135 693
Green Belt	200	30			106 855		210	30	23 237	130 562		13	13	130 575

1. Figures include reserves in Active and Inactive sites, but not Dormant sites.

2. Designations are not mutually exclusive, e.g. SSSIs may overlap with others, such as National Parks and AONBs. Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are also SSSIs. They are sub-sets of SSSIs. Some designations, notably SSSIs, may only coincide with a small part of an extant planning permission. However, the total sales for the mineral working are recorded even though there may be no extraction within the designation. The degree of overlap, and the actual or potential impacts of mineral extraction on the conservation interest of the site will vary and are not reflected in the figures.

3. Green Belt is a planning policy designation

Table B4 Permitted reserves of primary aggregates at 31 December 2019 in dormant sites by environmental designation - aggregate use

Thousand tonnes

	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Sand and gravel														
All sites			100		2 100	2 000		3 121		7 321	294	23	317	7 638
National Park														
AONB														
SSSI											294		294	294
SPA and SAC											294		294	294
Green Belt			100							100				100
Crushed rock														
All sites	119 475	1 070			26 582	7 090		13 286	16 985	184 488	30 006	10 015	40 021	224 509
National Park											360	15	375	375
AONB	1 465								8 207	9 672				9 672
SSSI	93 160				8 203			12 606	8 778	122 747	4 951	10 000	14 951	137 698
SPA and SAC					8 203					8 203		10 000	10 000	18 203
Green Belt					8 203			2 550		10 753		10 000	10 000	20 753

1. For aggregate use only.

2. Designations are not mutually exclusive, e.g. SSSIs may overlap with others, such as National Parks and AONBs. Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are also SSSIs. They are sub-sets of SSSIs. Some designations, notably SSSIs, may only coincide with a small part of an extant planning permission. However, the total sales for the mineral working are recorded even though there may be no extraction within the designation. The degree of overlap, and the actual or potential impacts of mineral extraction on the conservation interest of the site will vary and are not reflected in the figures.

3. Green Belt is a planning policy designation.

4. The data presented on dormant sites cannot be considered complete as some regions have dormant sites where the volume of aggregates contained is not known and, therefore, could not be supplied.

Appendix C – Planning permissions

Table C1 Total reserves of sand and gravel granted planning permission between 2015 and 2019 by a) site type and b) sand / sand and gravel

Thousand tonnes

Region	New quarries		Extensions		Borrow pits		Dormant reactivation	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	1 529	4	8 486	8				
South East	11 325	9	15 519	19			30	1
Greater London	5 909	4	1 000	1				
East of England	14 761	12	22 758	26	1 480	3		
East Midlands	2 828	3	35 181	25				
West Midlands	11 100	5	20 207	15				
North West	825	1	7 148	7				
Yorkshire & the Humber	11 370	1	16 439	15			80	1
North East			6 500	2				
England	59 647	39	133 238	118	1 480	3	110	2
South Wales	60	1	1 900	2				
North Wales			380	1			659	2
Wales	60	1	2 280	3			659	2
England and Wales	59 707	40	135 518	121	1 480	3	769	4

1. New quarries excludes borrow pits.

2. Extensions include lateral and vertical.

Thousand tonnes

Region	Soft sand		Sharp sand		Sand (unspecified type)		Sand and gravel	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	4 130	4					5 885	8
South East	6 242	9					20 632	20
Greater London							6 909	5
East of England	700	1			1 350	3	36 948	37
East Midlands	36	1	1 400	1			36 573	26
West Midlands	750	1					30 557	19
North West					3 625	3	4 348	5
Yorkshire & the Humber	2 100	2			1 875	6	23 914	9
North East					6 000	1	500	1
England	13 958	18	1 400	1	12 850	13	166 266	130
South Wales					1 750	1	210	2
North Wales	271	1	388	1			380	1
Wales	271	1	388	1	1 750	1	590	3
England and Wales	14 229	19	1 788	2	14 600	14	166 856	133

Table C2 Total quantity of sand and gravel refused planning permission between 2015 and 2019 by a) site type and b) sand / sand and gravel

Thousand tonnes

Region	New quarries		Extensions		Borrow pits		Dormant reactivation	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	1 048	2	370	1				
South East	6 250	3						
Greater London								
East of England			1 900	1				
East Midlands	400	1						
West Midlands								
North West								
Yorkshire & the Humber								
North East								
England	7 698	6	2 270	2				
South Wales								
North Wales								
Wales								
England and Wales	7 698	6	2 270	2				

1. New quarries excludes borrow pits.

2. Extensions include lateral and vertical.

Thousand tonnes

Region	Soft sand		Sharp sand		Sand (unspecified type)		Sand and gravel	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West							1 418	3
South East					2 500	1	3 750	2
Greater London								
East of England							1 900	1
East Midlands							400	1
West Midlands								
North West								
Yorkshire & the Humber								
North East								
England					2 500	1	7 468	7
South Wales								
North Wales								
Wales								
England and Wales					2 500	1	7 468	7

Table C3 Total quantity of sand and gravel awaiting planning permission at 31 December 2019 by a) site type and b) sand / sand and gravel

Thousand tonnes

Region	New quarries		Extensions		Borrow pits		Dormant reactivation	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	1 671	3	1 347	3				
South East	3 859	3	2 616	4				
Greater London								
East of England	9 670	2	16 615	10				
East Midlands	3 400	1	7 431	4				
West Midlands	5 420	5	8 000	3				
North West	0	0	775	4				
Yorkshire & the Humber	540	1	171	1				
North East								
England	24 560	15	36 955	29				
South Wales								
North Wales								
Wales								
England and Wales	24 560	15	36 955	29				

1. New quarries excludes borrow pits.
2. Extensions include lateral and vertical.
3. Includes planning permissions awaiting a Section 106 Agreement.

Thousand tonnes

Region	Soft sand		Sharp sand		Sand (unspecified type)		Sand and gravel	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West					400	1	2 618	5
South East	1 800	1	355	1			4 320	6
Greater London								
East of England					200	1	26 085	11
East Midlands							10 831	5
West Midlands					1 350	2	12 070	6
North West	350	1			425	3		
Yorkshire & the Humber							711	2
North East								
England	2 150	2	355	1	2 375	7	56 635	35
South Wales								
North Wales								
Wales								
England and Wales	2 150	2	355	1	2 375	7	56 635	35

Table C4 Total quantity of sand and gravel withdrawn from the planning application process between 2015 and 2019 by a) site type and b) sand / sand and gravel

Thousand tonnes

Region	New quarries		Extensions		Borrow pits		Dormant reactivation	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West								
South East								
Greater London								
East of England								
East Midlands	465	1						
West Midlands							n/a	1
North West								
Yorkshire & the Humber								
North East			1 400	1				
England	465	1	1 400	1			n/a	1
South Wales								
North Wales								
Wales								
England and Wales	465	1	1 400	1			n/a	1

1. New quarries excludes borrow pits.
2. Extensions include lateral and vertical.
3. Only includes those planning applications withdrawn and not subsequently re-submitted.
4. n/a –tonnage not reported

Thousand tonnes

Region	Soft sand		Sharp sand		Sand (unspecified type)		Sand and gravel	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West								
South East								
Greater London								
East of England								
East Midlands							465	1
West Midlands							n/a	1
North West								
Yorkshire & the Humber								
North East					1 400	1		
England					1 400	1	465	2
South Wales								
North Wales								
Wales								
England and Wales					1 400	1	465	2

Table C5 Total reserves of crushed rock granted planning permission between 2015 and 2019 by site type

Thousand tonnes

Region	New quarries		Extensions		Borrow pits		Dormant reactivation	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	63	1	87 545	13				
South East			682	3				
Greater London								
East of England			1 200	1				
East Midlands			7 234	5			11 594	2
West Midlands			14 140	3			2 000	1
North West			10 710	6			730	2
Yorkshire & the Humber	1 000	1	37 817	20			2 500	1
North East			26 920	8				
England	1 063	2	186 248	59			16 824	6
South Wales			69 030	6				
North Wales								
Wales			69 030	6				
England and Wales	1 063	2	255 278	65			16 824	6

1. New quarries excludes borrow pits.

2. Extensions include lateral and vertical.

Table C6 Total quantity of crushed rock refused planning permission between 2015 and 2019 by site type

Thousand tonnes

Region	New quarries		Extensions		Borrow pits		Dormant reactivation	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West								
South East								
Greater London								
East of England								
East Midlands	5 900	1	500	1				
West Midlands								
North West								
Yorkshire & the Humber								
North East								
England	5 900	1	500	1				
South Wales								
North Wales								
Wales								
England and Wales	5 900	1	500	1				

1. New quarries excludes borrow pits.
2. Extensions include lateral and vertical.

Table C7 Total quantity of crushed rock awaiting planning permission at 31 December 2019

Thousand tonnes

Region	New quarries		Extensions		Borrow pits		Dormant reactivation	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West			26 755	7				
South East			1 920	3				
Greater London								
East of England								
East Midlands			15 280	5			3 600	2
West Midlands								
North West							5 000	1
Yorkshire & the Humber	n/a	1	2 180	4				
North East			1 250	1			9 000	3
England	n/a	1	47 385	20			17 600	6
South Wales			14 070	4	29	1	8 511	1
North Wales			3 360	1				
Wales			17 430	5	29	1	8 511	1
England and Wales	n/a	1	64 815	25	29	1	26 111	7

1. New quarries excludes borrow pits.
2. Extensions include lateral and vertical.
3. Includes planning permissions awaiting a Section 106 Agreement.
4. n/a –tonnage not reported.

Table C8 Total quantity of crushed rock withdrawn from the planning application process between 2015 and 2019 by site type

Thousand tonnes

Region	New quarries		Extensions		Borrow pits		Dormant reactivation	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West			1 840	2				
South East								
Greater London								
East of England								
East Midlands			7 650	3				
West Midlands								
North West								
Yorkshire & the Humber								
North East								
England			9 490	5				
South Wales								
North Wales								
Wales								
England and Wales			9 490	5				

1. New quarries excludes borrow pits.

2. Extensions include lateral and vertical.

3. Only includes those planning applications withdrawn and not subsequently re-submitted.

Table C9 Total reserves of sand and gravel granted planning permission between 2015 and 2019 by environmental designation

Thousand tonnes

Region	National Park		AONB		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West									502	3
South East			708	4			415	1	6 384	10
Greater London									6 909	5
East of England			1 100	1	1 100	1	2 676	5	1 620	6
East Midlands									1 400	1
West Midlands									16 630	11
North West									4 323	4
Yorkshire & the Humber							4 107	2		
North East										
England			1 808	5	1 100	1	7 198	8	37 768	40
South Wales					1 750	1	1 750	1		
North Wales										
Wales					1 750	1	1 750	1		
England and Wales			1 808	5	2 850	2	8 948	9	37 768	40

1. SPA / SAC are a subset of SSSI.

2. Green Belt is a planning policy designation.

3. One planning permission in the East of England (1 100 tonnes) was the only permission indicated as being in an NNR.

Table C10 Total quantity of sand and gravel refused planning permission between 2015 and 2019 by environmental designation

Thousand tonnes										
Region	National Park		AONB		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West									950	1
South East									6 250	3
Greater London										
East of England										
East Midlands									400	1
West Midlands										
North West										
Yorkshire & the Humber										
North East										
England									7 600	5
South Wales										
North Wales										
Wales										
England and Wales									7 600	5

1. SPA / SAC are a subset of SSSI.
2. Green Belt is a planning policy designation.

Table C11 Total quantity of sand and gravel awaiting planning permission at 31 December 2019 by environmental designation

Thousand tonnes										
Region	National Park		AONB		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West			930	1						
South East			550	1					3 309	2
Greater London										
East of England			1 000	1			1 000	1	14 440	5
East Midlands							3 300	1	3 400	1
West Midlands							1 350	1	3 920	4
North West									665	2
Yorkshire & the Humber										
North East										
England			2 480	3			5 650	3	25 734	14
South Wales										
North Wales										
Wales										
England and Wales			2 480	3			5 650	3	25 734	14

1. SPA / SAC are a subset of SSSI.

2. Green Belt is a planning policy designation.

3. Includes planning permissions awaiting a Section 106 Agreement.

Table C12 Total quantity of sand and gravel withdrawn from the planning application process between 2015 and 2019 by environmental designation

Thousand tonnes

Region	National Park		AONB		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West										
South East										
Greater London										
East of England										
East Midlands										
West Midlands									n/a	1
North West										
Yorkshire & the Humber										
North East										
England									n/a	1
South Wales										
North Wales										
Wales										
England and Wales									n/a	1

1. SPA / SAC are a subset of SSSI.
2. Green Belt is a planning policy designation.
3. Only includes those planning applications withdrawn and not subsequently re-submitted.
4. n/a –tonnage not reported.

Table C13 Total reserves of crushed rock granted planning permission between 2015 and 2019 by environmental designation

Thousand tonnes

Region	National Park		AONB		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West			40 330	4			10 000	1	9 000	1
South East			67	1			15	1		
Greater London										
East of England										
East Midlands	3 190	1					3 190	1		
West Midlands										
North West										
Yorkshire & the Humber	14 400	2			534	1	11 834	2	13 712	12
North East			3 700	1						
England	17 590	3	44 097	6	534	1	25 039	5	22 712	13
South Wales							23 000	1		
North Wales										
Wales							23 000	1		
England and Wales	17 590	3	44 097	6	534	1	48 039	6	22 712	13

1. SPA / SAC are a subset of SSSI.

2. Green Belt is a planning policy designation.

Table C14 Total quantity of crushed rock refused planning permission between 2015 and 2019 by environmental designation

Thousand tonnes

Region	National Park		AONB		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West										
South East										
Greater London										
East of England										
East Midlands										
West Midlands										
North West										
Yorkshire & the Humber										
North East										
England										
South Wales										
North Wales										
Wales										
England and Wales										

1. SPA / SAC are a subset of SSSI.
2. Green Belt is a planning policy designation.
3. This table is intentionally blank due to non-occurrence of the data combination.

Table C15 Total quantity of crushed rock awaiting planning permission at 31 December 2019 by environmental designation by environmental designation

Thousand tonnes										
Region	National Park		AONB		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	2 975	1	5 850	3						
South East									400	1
Greater London										
East of England										
East Midlands							6 300	1		
West Midlands										
North West										
Yorkshire & the Humber									2 180	3
North East			3 750	1			6 500	2		
England	2 975	1	9 600	4			12 800	3	2 580	4
South Wales										
North Wales										
Wales										
England and Wales	2 975	1	9 600	4			12 800	3	2 580	4

1. SPA / SAC are a subset of SSSI.

2. Green Belt is a planning policy designation.

3. Includes planning permissions awaiting a Section 106 Agreement.

Table C16 Total quantity of crushed rock withdrawn from the planning application process between 2015 and 2019 by environmental designation

Thousand tonnes

Region	National Park		AONB		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West			1 840	2						
South East										
Greater London										
East of England										
East Midlands					5 000	1	5 000	1		
West Midlands										
North West										
Yorkshire & the Humber										
North East										
England			1 840	2	5 000	1	5 000	1		
South Wales										
North Wales										
Wales										
England and Wales			1 840	2	5 000	1	5 000	1		

1. SPA / SAC are a subset of SSSI.
2. Green Belt is a planning policy designation.
3. Only includes those planning applications withdrawn and not subsequently re-submitted.

Table C17 Total quantity of sand and gravel in the planning system between 2015 and 2019 for sites within a development plan allocated area

Thousand tonnes

Region	Granted		Refused		Withdrawn		Awaiting (as at 31 Dec. 2019)	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	5 760	5					1 900	2
South East	9 152	16					3 309	2
Greater London								
East of England	27 556	18	1 900	1			21 740	6
East Midlands	36 918	25					10 831	5
West Midlands	19 940	12			n/a	1	9 000	3
North West	4 850	3					775	3
Yorkshire & the Humber	16 408	5						
North East								
England	120 584	84	1 900	1	n/a	1	47 555	21
South Wales								
North Wales								
Wales								
England and Wales	120 584	84	1 900	1	n/a	1	47 555	21

1. Applies to allocated sites preferred areas and areas of search.

2. n/a –tonnage not reported.

Table C18 Total quantity of crushed rock in the planning system between 2015 and 2019 for sites within a development plan allocated area

Thousand tonnes

Region	Granted		Refused		Withdrawn		Awaiting (as at 31 Dec. 2019)	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	9 000	1					22 730	3
South East								
Greater London								
East of England	1 200	1						
East Midlands	4 880	2					6 300	1
West Midlands								
North West								
Yorkshire & the Humber	12 717	13					2 150	3
North East	8 050	2						
England	35 847	19					31 180	7
South Wales	12 780	1					18 511	2
North Wales							3 360	1
Wales	12 780	1					21 871	3
England and Wales	48 627	20					53 051	10

1. Applies to allocated sites preferred areas and areas of search.

Appendix D – Comparison with previous AM surveys

Table D1 Comparison of sales of primary aggregates 1973, 1977, 1985, 1989, 1993, 1997, 2001, 2005, 2009, 2014 and 2019

Thousand tonnes

Sand and Gravel – Land-Won and Marine-Dredged											
Region	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019
South West	8 662	5 509	6 380	7 703	4 605	5 092	5 791	5 264	3 638	3 923	3 433
South East London East of England	60 660	46 731	49 305	62 345	38 648	36 175	40 643	34 474	25 220	29 474	27 041
East Midlands	14 184	10 539	10 959	15 961	13 278	11 314	10 046	10 014	5 501	6 600	7 063
West Midlands	13 511	10 020	10 853	13 830	10 849	9 936	9 932	9 105	5 860	5 877	6 476
Yorkshire & the Humber	6 780	4 991	4 324	6 175	4 706	4 958	5 211	4 695	3 122	2 509	2 312
North East & North West	10 638	7 880	6 690	8 791	7 202	7 977	5 705	6 270	3 597	3 981	4 155
England	114 435	85 670	88 511	114 805	79 288	75 452	77 328	69 821	46 938	52 363	50 480
South Wales	2 413	1 794	1 529	2 524	1 818	2 008	1 289	1 542	757	1 218	789
North Wales	2 536	1 860	1 576	1 909	1 725	1 392	1 387	1 237	621	927	1 021
Wales	4 949	3 654	3 105	4 433	3 543	3 400	2 676	2 779	1 378	2 145	1 810
England and Wales	119 384	89 324	91 616	119 238	82 831	78 852	80 004	72 599	48 317	54 507	52 290
Crushed Rock											
Region	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019
South West	30 195	19 990	25 850	38 213	29 193	22 945	26 518	22 238	17 206	21 439	25 321
South East London East of England	1 961	1 611	2 126	3 820	1 759	2 299	3 053	1 724	1 583	2 427	2 130
East Midlands	21 569	16 451	21 508	33 651	31 741	31 475	31 254	28 793	21 421	23 806	29 164
West Midlands	10 428	7 960	8 317	12 804	8 402	6 456	5 497	4 516	2 639	3 775	4 919
Yorkshire & the Humber	12 033	10 066	9 610	16 936	13 867	13 157	12 701	11 964	7 240	9 040	9 546
North East & North West	17 151	15 274	15 717	21 345	21 110	19 523	16 630	14 301	9 225	10 014	11 934
England	93 337	71 352	83 128	126 769	106 072	95 855	95 652	83 535	59 314	70 501	83 015
South Wales	10 182	10 306	9 532	13 137	14 739	12 912	10 021	10 873	8 185	7 825	8 310
North Wales	6 247	4 110	6 959	10 497	8 044	7 549	7 198	5 663	3 245	4 168	4 522
Wales	16 429	14 416	16 491	23 634	22 783	20 461	17 219	16 536	11 430	11 994	12 832
England and Wales	109 766	85 768	99 619	150 403	128 855	116 316	112 872	100 071	70 744	82 495	95 847
Total Primary Aggregates											
Region	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019
South West	38 857	25 499	32 230	45 916	33 798	28 037	32 309	27 501	20 844	25 362	28 754
South East London East of England	62 621	48 342	51 431	66 165	40 407	38 474	43 696	36 197	26 803	31 901	29 171
East Midlands	35 753	26 990	32 467	49 612	45 019	42 789	41 300	38 807	26 922	30 407	36 227
West Midlands	23 939	17 980	19 170	26 634	19 251	16 392	15 429	13 621	8 500	9 651	11 395
Yorkshire & the Humber	18 813	15 057	13 934	23 111	18 573	18 115	17 912	16 659	10 362	11 549	11 858
North East & North West	27 789	23 154	22 407	30 136	28 312	27 500	22 335	20 570	12 823	13 994	16 090
England	207 772	157 022	171 639	241 574	185 360	171 307	172 981	153 356	106 253	122 864	133 495
South Wales	12 595	12 100	11 061	15 661	16 557	14 920	11 310	12 416	8 942	9 043	9 099
North Wales	8 783	5 970	8 535	12 406	9 769	8 941	8 585	6 899	3 866	5 095	5 543
Wales	21 378	18 070	19 596	28 067	26 326	23 861	19 895	19 315	12 808	14 138	14 642
England and Wales	229 150	175 092	191 235	269 641	211 686	195 168	192 876	172 671	119 061	137 002	148 137

Table D2 Comparison of consumption of primary aggregates 1973, 1977, 1985, 1989, 1993, 1997, 2001, 2005, 2009, 2014 and 2019

Thousand tonnes

Region	Sand and Gravel – Land-Won and Marine-Dredged										
	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019
South West	8 796	6 330	7 304	8 994	5 415	5 498	6 263	5 803	3 471	3 828	3 446
South East London East of England	61 447	46 330	48 488	62 211	38 597	32 272	40 191	32 858	24 411	29 030	26 670
East Midlands	11 115	7 973	8 889	13 145	9 944	8 559	8 703	9 275	5 569	5 678	5 845
West Midlands	11 507	8 854	9 820	12 527	10 519	9 015	9 564	8 149	5 444	5 753	5 849
Yorkshire & the Humber	7 697	6 279	5 327	7 938	6 646	6 458	5 614	6 238	3 214	3 257	2 903
North East & North West	13 409	9 951	7 551	10 328	8 444	8 691	6 889	6 247	3 926	3 712	4 285
England	113 971	85 717	87 379	115 143	79 565	70 493	77 225	68 571	46 035	51 259	48 999
South Wales	2 755	1 890	1 689	2 636	1 934	1 963	1 198	1 628	724	1 258	762
North Wales	n.a.	1 254	957	1 450	1 226	900	977	811	544	815	588
Wales	n.a.	3 144	2 646	4 086	3 160	2 863	2 175	2 439	1 268	2 073	1 350
England and Wales	n.a.	88 861	90 025	119 229	82 725	73 356	79 399	71 010	47 303	53 332	50 349
Region	Crushed Rock										
	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019
South West	22 156	13 537	16 775	25 821	21 697	14 763	19 140	17 197	12 238	15 167	17 515
South East London East of England	12 406	9 193	13 335	24 608	15 294	14 579	22 736	17 404	13 745	15 857	20 046
East Midlands	10 979	9 456	12 538	18 598	17 232	15 568	14 448	13 002	10 613	12 141	16 100
West Midlands	11 406	8 577	10 265	16 376	11 297	8 419	10 475	9 677	5 040	6 289	7 957
Yorkshire & the Humber	12 455	10 292	9 103	16 790	14 311	12 848	12 793	11 511	7 779	9 007	10 086
North East & North West	23 955	21 655	22 891	32 500	29 718	28 221	25 450	22 499	13 821	17 770	18 011
England	93 357	72 710	84 907	134 693	109 549	94 398	105 042	91 289	63 236	76 230	89 714
South Wales	10 009	9 621	8 401	12 426	13 619	10 103	8 284	8 537	5 886	5 892	7 025
North Wales	n.a.	2 233	4 092	5 660	4 615	2 733	3 663	2 520	2 694	1 983	2 752
Wales	n.a.	11 854	12 493	18 086	18 234	12 836	11 947	11 057	8 580	7 875	9 778
England and Wales	n.a.	84 564	97 400	152 779	127 783	107 234	116 990	102 346	71 816	84 105	99 491
Region	Total Primary Aggregates										
	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019
South West	30 952	19 867	24 079	34 815	27 112	20 261	25 403	22 999	15 710	18 995	20 961
South East, London East of England	73 853	55 523	61 823	86 819	53 891	46 851	62 927	50 263	38 155	44 888	46 716
East Midlands	22 094	17 429	21 427	31 743	27 176	24 127	23 151	22 277	16 183	17 819	21 946
West Midlands	22 913	17 431	20 085	28 903	21 816	17 434	20 039	17 827	10 484	12 043	13 806
Yorkshire & the Humber	20 152	16 571	14 430	24 728	20 957	19 306	18 407	17 749	10 993	12 265	12 989
North East & North West	37 364	31 606	30 442	42 828	38 162	36 912	32 339	28 746	17 747	21 481	22 295
England	207 328	158 427	172 286	249 836	189 114	164 891	182 267	159 860	109 271	127 489	138 712
South Wales	12 764	11 511	10 090	15 062	15 553	12 066	9 482	10 165	6 611	7 150	7 787
North Wales	n.a.	3 487	5 049	7 110	5 841	3 633	4 640	3 331	3 238	2 798	3 341
Wales	n.a.	14 998	15 139	22 172	21 394	15 699	14 122	13 496	9 848	9 948	11 128
England and Wales	n.a.	173 425	187 425	272 008	210 508	180 590	196 389	173 356	119 120	137 438	149 840

Table D3 Comparison of permitted reserves of primary aggregates 1973, 1977, 1985, 1989, 1993, 1997, 2001, 2005, 2009, 2014 and 2019

Million tonnes

Region	Sand and Gravel										
	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019
South West	153	171	72	72	83	74	50	51	41	29	26
South East, London East of England	442	n.a.	377	363	405	359	330	250	228	192	185
East Midlands	175	147	143	149	130	126	99	77	81	60	68
West Midlands	188	156	140	132	140	166	144	127	104	89	91
Yorkshire & the Humber	66	43	42	54	37	58	51	42	34	25	32
North East & North West	101	66	74	74	100	98	79	56	57	44	40
England	1 125	n.a.	848	844	895	881	752	603	544	438	442
South Wales	9	n.a.	2	0	10	14	8	3	2	3	2
North Wales	28	n.a.	20	16	20	26	23	15	19	16	15
Wales	37	n.a.	22	16	30	40	31	18	21	19	17
England and Wales	1 162	n.a.	870	860	925	921	783	622	565	457	460

Region	Crushed Rock										
	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019
South West	1 788	1 842	1 089	1 393	1 310	1 435	1 426	920	868	818	869
South East, London East of England	n.a. ¹	n.a.	31	42	71	57	88	62	62	57	31
East Midlands	1 733	1 543	1 773	1 896	1 957	2 091	2 166	1 375	1 303	919	1 227
West Midlands	228	267	241	235	216	465	309	306	312	269	188
Yorkshire & the Humber	522	n.a.	257	413	531	550	471	347	301	239	222
North East & North West	1 162	1 011	809	717	1 002	705	605	545	544	478	440
England	5 433	n.a.	4 200	4 696	5 087	5 303	5 065	3 556	3 391	2 779	2 976
South Wales	656	n.a.	492	419	581	651	648	499	419	512	523
North Wales	619	n.a.	1 117	772	433	399	505	205	172	158	197
Wales	1 275	n.a.	1 609	1 191	1 014	1 050	1 153	705	591	669	720
England and Wales	6 708	n.a.	5 809	5 887	6 101	6 353	6 218	4 260	3 982	3 448	3 697

Region	Total Primary Aggregates										
	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019
South West	1 941	2 013	1 161	1 465	1 393	1 509	1 476	971	909	847	894
South East, London East of England	n.a.	n.a.	408	405	476	416	418	312	291	248	216
East Midlands	1 908	1 690	1 916	2 045	2 087	2 217	2 265	1 452	1 384	978	1 295
West Midlands	416	423	381	367	356	631	453	433	415	358	279
Yorkshire & the Humber	588	n.a.	299	467	568	608	522	389	335	264	254
North East & North West	1 263	1 077	883	791	1 102	803	684	601	601	521	480
England	n.a.	n.a.	5 048	5 540	5 982	6 184	5 817	4 159	3 935	3 217	3 419
South Wales	665	n.a.	494	419	591	665	655	502	421	515	525
North Wales	647	n.a.	1 137	788	453	425	528	220	192	174	212
Wales	1 312	n.a.	1 631	1 207	1 044	1 090	1 184	723	612	689	738
England and Wales	n.a.	n.a.	6 679	6 747	7 026	7 274	7 001	4 882	4 547	3 906	4 157

1. n.a. - not available.

2. n.a.¹ - not available but assumed to be negligible.

3. Reserve figures for AM2005 onwards are not directly comparable to earlier years. From 2005, 'reserves' in dormant sites and for non-aggregate uses were excluded.

4. A comparison of AM2014 reserves for each region with the subsequent AWP/RAWP annual monitoring reports indicates that reserves, in particular of crushed rock, were likely under-reported to the AM2014 survey for a number of regions. Data reported in AWP/RAWP annual monitoring reports indicate total reserves of sand and gravel at the end of 2014 were 468 Mt in England and 20 Mt in Wales and those for crushed rock were 3 331 Mt in England and 664 Mt in Wales.

Appendix E – Comparison with AM2001, AM2005, AM2009, AM2014 and AM2019 surveys

Table E1 Comparison of sales of primary aggregates 2001, 2005, 2009, 2014 and 2019

Thousand tonnes

Sand and Gravel – Land-Won and Marine-Dredged					
Region	2001	2005	2009	2014	2019
South West	5 791	5 264	3 638	3 923	3 433
South East	19 669	15 526	10 992	12 484	11 205
London	4 562	5 073	4 239	5 054	4 711
East of England	16 412	13 875	9 989	11 936	11 125
East Midlands	10 046	10 014	5 501	6 600	7 063
West Midlands	9 932	9 105	5 860	5 877	6 476
North West	3 544	3 770	2 276	2 571	2 335
Yorkshire & the Humber	5 211	4 695	3 122	2 509	2 312
North East	2 162	2 500	1 321	1 410	1 820
England	77 328	69 821	46 938	52 363	50 480
South Wales	1 289	1 542	757	1 218	789
North Wales	1 387	1 237	621	927	1 021
Wales	2 676	2 779	1 378	2 145	1 810
England and Wales	80 004	72 599	48 317	54 507	52 290
Crushed Rock					
Region	2001	2005	2009	2014	2019
South West	26 518	22 238	17 206	21 439	25 321
South East	2 398	1 238	1 294	1 795	2 026
London					
East of England	655	486	289	632	104
East Midlands	31 254	28 793	21 421	23 806	29 164
West Midlands	5 497	4 516	2 639	3 775	4 919
North West	10 034	8 644	5 897	5 849	6 466
Yorkshire & the Humber	12 701	11 964	7 240	9 040	9 546
North East	6 596	5 657	3 328	4 165	5 468
England	95 652	83 535	59 314	70 501	83 015
South Wales	10 021	10 873	8 185	7 825	8 310
North Wales	7 198	5 663	3 245	4 168	4 522
Wales	17 219	16 536	11 430	11 994	12 832
England and Wales	112 872	100 071	70 744	82 495	95 847
Total Primary Aggregates					
Region	2001	2005	2009	2014	2019
South West	32 309	27 501	20 844	25 362	28 754
South East	22 067	16 763	12 286	14 279	13 231
London	4 562	5 073	4 239	5 054	4 711
East of England	17 066	14 361	10 278	12 568	11 229
East Midlands	41 300	38 807	26 922	30 407	36 227
West Midlands	15 429	13 621	8 500	9 651	11 395
North West	13 578	12 413	8 174	8 419	8 801
Yorkshire & the Humber	17 913	16 659	10 362	11 549	11 858
North East	8 758	8 157	4 649	5 575	7 289
England	172 981	153 356	106 253	122 864	133 495
South Wales	11 310	12 416	8 942	9 043	9 099
North Wales	8 585	6 899	3 866	5 095	5 543
Wales	19 895	19 315	12 808	14 138	14 642
England and Wales	192 876	172 671	119 061	137 002	148 137

Table E2 Comparison of consumption of primary aggregates 2001, 2005, 2009, 2014 and 2019

Thousand tonnes

Sand and Gravel – Land-Won and Marine-Dredged					
Region	2001	2005	2009	2014	2019
South West	6 263	5 803	3 471	3 828	3 446
South East	19 524	13 241	10 380	12 071	11 079
London	7 110	6 463	5 283	5 683	3 335
East of England	13 557	13 154	8 748	11 276	12 256
East Midlands	8 703	9 275	5 569	5 678	5 845
West Midlands	9 564	8 149	5 444	5 753	5 849
North West	4 081	3 540	1 967	2 087	2 556
Yorkshire & the Humber	5 614	6 238	3 214	3 257	2 903
North East	2 808	2 707	1 959	1 625	1 729
England	77 225	68 571	46 035	51 259	48 999
South Wales	1 198	1 628	724	1 258	762
North Wales	977	811	544	815	588
Wales	2 175	2 439	1 268	2 073	1 350
England and Wales	79 399	71 010	47 303	53 332	50 349
Crushed Rock					
Region	2001	2005	2009	2014	2019
South West	19 140	17 197	12 238	15 167	17 515
South East	14 603	7 935	5 383	7 126	7 091
London	2 453	3 892	4 086	3 890	4 023
East of England	5 680	5 577	4 276	4 841	8 932
East Midlands	14 448	13 002	10 613	12 141	16 100
West Midlands	10 475	9 677	5 040	6 289	7 957
North West	18 058	16 631	10 299	13 276	12 240
Yorkshire & the Humber	12 793	11 511	7 779	9 007	10 086
North East	7 392	5 868	3 522	4 494	5 771
England	105 042	91 289	63 236	76 230	89 714
South Wales	8 284	8 537	5 886	5 892	7 025
North Wales	3 663	2 520	2 694	1 983	2 752
Wales	11 947	11 057	8 580	7 875	9 778
England and Wales	116 990	102 346	71 816	84 105	99 491
Total Primary Aggregates					
Region	2001	2005	2009	2014	2019
South West	25 404	22 999	15 710	18 995	20 961
South East	34 127	21 176	15 762	19 197	18 170
London	9 563	10 355	9 369	9 573	7 358
East of England	19 237	18 732	13 024	16 118	21 188
East Midlands	23 151	22 277	16 183	17 819	21 946
West Midlands	20 039	17 827	10 484	12 043	13 806
North West	22 139	20 171	12 266	15 363	14 796
Yorkshire & the Humber	18 407	17 749	10 993	12 265	12 989
North East	10 201	8 575	5 481	6 118	7 499
England	182 267	159 860	109 271	127 489	138 712
South Wales	9 482	10 165	6 611	7 150	7 787
North Wales	4 640	3 331	3 238	2 798	3 341
Wales	14 122	13 496	9 848	9 948	11 128
England and Wales	196 389	173 356	119 120	137 438	149 840

Table E3 Comparison of permitted reserves of primary aggregates 2001, 2005, 2009, 2014 and 2019

Million tonnes

Region	Sand and Gravel				
	2001	2005	2009	2014	2019
South West	50	51	41	29	26
South East	142	81	79	67	66
London	3	3	2	1	3
East of England	185	166	147	124	116
East Midlands	99	77	81	60	68
West Midlands	144	127	104	89	91
North West	58	41	42	25	23
Yorkshire & the Humber	51	42	34	25	32
North East	21	15	15	18	17
England	752	603	544	438	442
South Wales	8	3	2	3	2
North Wales	23	15	19	16	15
Wales	31	18	21	19	17
England and Wales	783	622	565	457	460
Region	Crushed Rock				
	2001	2005	2009	2014	2019
South West	1 386	920	868	818	869
South East	73	54	59	52	27
London					
East of England	15	8	3	5	4
East Midlands	2 166	1 375	1 303	919	1 227
West Midlands	309	306	312	269	188
North West	346	302	327	258	242
Yorkshire & the Humber	471	347	301	239	222
North East	259	244	217	220	198
England	5 023	3 556	3 391	2 779	2 976
South Wales	648	499	419	512	523
North Wales	505	205	172	158	197
Wales	1 153	705	591	669	720
England and Wales	6 176	4 260	3 982	3 448	3 697
Region	Total Primary Aggregates				
	2001	2005	2009	2014	2019
South West	1 436	971	909	847	894
South East	214	135	138	119	92
London	3	3	2	1	3
East of England	200	175	151	128	120
East Midlands	2 265	1 452	1 384	978	1 295
West Midlands	453	433	415	358	279
North West	404	343	369	283	265
Yorkshire & the Humber	521	389	335	264	254
North East	280	258	232	238	215
England	5 776	4 159	3 935	3 217	3 419
South Wales	655	502	421	515	525
North Wales	528	220	192	174	212
Wales	1 184	723	612	689	738
England and Wales	6 960	4 882	4 547	3 906	4 157

1. Reserve figures for AM2005 onwards are not directly comparable to earlier years. From 2005, 'reserves' in dormant sites and for non-aggregate uses were excluded.

2. A comparison of AM2014 reserves for each region with the subsequent AWP/RAWP annual monitoring reports indicates that reserves, in particular of crushed rock, were likely under-reported to the AM2014 survey for a number of regions. Data reported in AWP/RAWP annual monitoring reports indicate total reserves of sand and gravel at the end of 2014 were 468 Mt in England and 20 Mt in Wales and those for crushed rock were 3 331 Mt in England and 664 Mt in Wales.

Appendix F – Survey Forms A and B

Off-line version of Form A – Sales by end use, sales by destination (sub-region) and transport method, and permitted reserves of primary aggregates.

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Ministry of Housing,
Communities &
Local Government

Aggregate Minerals Survey 2019 for England and Wales



Llywodraeth Cymru
Welsh Government

FORM A: Quarries producing land-won natural aggregates¹, and Marine Wharves for sand and gravel and crushed rock during 2019

BACKGROUND INFORMATION

Since 1973, the Aggregate Minerals Survey has been conducted at four-yearly intervals. In 2019, the survey comes five years after the previous one, which was conducted in 2014. These surveys provide an in-depth and up-to-date understanding of regional and national sales, consumption, distribution, and permitted reserves of natural aggregates. The information is collected from aggregates producers, and is collated at Mineral Planning Authority, regional, and national levels. The collated results for the 2014 survey can be viewed and downloaded at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/563423/Aggregate_Minerals_Survey_England_Wales_2014.pdf

This survey relates to aggregate sales, distribution, and reserves from 01 January to 31 December 2019.

The national collation of this survey is being undertaken by the British Geological Survey for the Ministry of Housing, Communities and Local Government and the Welsh Government.

The results of the AM2019 Survey will be used to monitor policies for the supply of aggregates

ABOUT THIS DATA COLLECTION

The data collection for the Aggregate Minerals Survey includes both commercially confidential information and personal data. The personal information you provide will not be included in the Aggregate Minerals Survey Report 2019. The level of disaggregation of data included in the tables in the Aggregate Minerals Survey is subject to the agreement of the Aggregate Minerals Survey Steering Group, which includes representatives from the minerals industry and mineral planning authorities. Collated data may also be used for the purposes of mineral planning policy work by MHCLG, Aggregate Working parties and Mineral Planning Authorities.

For more information about the use of the data that you provide, together with your personal data, please refer to the 'Privacy Notice' tab at the bottom of this workbook.

Completed forms should be returned either by email or in envelopes marked 'Confidential' to:

Please return the completed form no later than 21 September 2020.

¹ Aggregates – Granular material used in construction. Aggregates can be natural, recycled or manufactured. This form relates to natural aggregates, both primary and secondary (or by-product) aggregates, excavated and sold for the first time.

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Mrs Chloe Wrighton - chig@bgs.ac.uk

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SD2	Your email address	
SD3	Your telephone number	
SD4	What is the name of the quarry or wharf at this site?	
SD5	Address	
SD6	Address 2	
SD7	City/Town	
SD8	County	
SD9	Postal Code	
SD10	Country (England or Wales)	
SD11	Site telephone number	
SD12	What is the name of the operating company at this site?	

GUIDANCE NOTES - please read these notes before completing the form. This form applies to:

⁽¹⁾ Quarries / other sites producing land-won natural aggregates either as a principal activity or as a subsidiary activity, such as a by-product of building stone, silica sand, china clay, ball clay, slate, clay, shale and coal extraction.

⁽²⁾ Marine wharves at which marine-dredged sand and gravel and / or crushed rock are landed.

⁽³⁾ A distinction is made between 'inactive' sites and 'dormant' sites. The latter is defined in the Environment Act 1995 as a mineral site where no mineral development has taken place to any substantial extent in, on, or under the site at any time in the period 22nd February 1982 and 6th June 1995.

⁽⁴⁾ Complete only Question 2 and Question 3 for these materials.

TM1	Type of mineral working (please tick relevant box)	<input type="checkbox"/> Quarry ⁽¹⁾ <input type="checkbox"/> Marine wharf ⁽²⁾	<input type="checkbox"/> <input type="checkbox"/>
TM2	Association status: (please tick relevant box(es))	<input type="checkbox"/> Mineral Products Association member <input type="checkbox"/> British Aggregates Association member <input type="checkbox"/> None of the above	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
TM3	Status of quarry / wharf / other site: (please tick relevant box)	Active: In production, including from stockpiles, for some time during 2019 <input type="checkbox"/> Inactive: Worked in the past and still containing permitted reserves [Complete only Question 1 for permitted reserves] ⁽³⁾ <input type="checkbox"/> Inactive: Planning permission received, but yet to be worked [Complete only Question 1 for permitted reserves] <input type="checkbox"/> Dormant: As identified under the Environment Act 1995 ⁽³⁾ [Complete only Question 1 for permitted reserves] <input type="checkbox"/> Closed and containing no workable permitted reserves [Complete only site details] <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
TM4	Mineral type: (please tick relevant box(es))	<input type="checkbox"/> Soft sand (building) <input type="checkbox"/> Sharp sand (concreting) <input type="checkbox"/> Undifferentiated sand <input type="checkbox"/> Sand and gravel <input type="checkbox"/> Igneous rock (including metamorphic) <input type="checkbox"/> Limestone / Dolomite <input type="checkbox"/> Sandstone (includes greywacke, gritstone and quartzite)	<input type="checkbox"/> Chalk <input type="checkbox"/> Ironstone <input type="checkbox"/> China clay aggregate (sand or 'stent') ⁽⁴⁾ <input type="checkbox"/> Ball clay aggregate (sand) ⁽⁴⁾ <input type="checkbox"/> Slate waste sold as aggregate ⁽⁴⁾ <input type="checkbox"/> Colliery spoil sold as aggregate ⁽⁴⁾ <input type="checkbox"/> 'Clay' and 'shale' sold as aggregate ⁽⁴⁾
TM5	Polished Stone Value for crushed rock (please insert the accepted PSV for the site)		<input type="text"/>

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SITE STATUS DETAILS CONTINUED

MPA1	MPA name			
MPA2	AWP region			
NGR1	National Grid Reference (of centre of working, e.g. NG 456 789)			
		Code	Easting	Northing

- DS1 Please tick here if the site is a borrow pit (a temporary mineral working to supply aggregate for a specific construction project)
- DS2 Please tick here if the site has received planning permission for an extension in 2019
- DS3 Please tick here if this is a new quarry or wharf granted planning permission in 2019

DS4 Date current planning permission for extraction expires (if stated) (dd/mm/yyyy)

Please tick as appropriate if the area for extraction within the planning permission is wholly or partly within any of the following environmental designations.
The site may fall within more than one designation:

- DS5 National Park (including The Broads and The New Forest)
- DS6 Area of Outstanding Natural Beauty
- DS7 Site of Special Scientific Interest
- DS8 National Nature Reserve
- DS9 Special Area of Conservation / Special Protection Area
- DS10 Green Belt

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1. PERMITTED RESERVES (AT QUARRIES ONLY)

DEFINITIONS

Permitted Reserves - Estimated reserves of aggregate minerals, including stockpiles, with planning permission that are saleable for aggregates and non-aggregate purposes at 31st December 2019. The figure should estimate **net saleable** reserves, taking account of likely losses during quarry design, extraction and processing.

Also **include** reserves at Inactive and Dormant sites. A dormant site is defined in the Environment Act 1995 as a mineral site where no mineral development has taken place to any substantial extent in, on, or under the site at any time in the period 22nd February 1982 at 6th June 1995.

GUIDANCE NOTES - please read these notes before completing the form.

⁽¹⁾ Where possible estimate the amount of sand or gravel.

⁽²⁾ Where not known this can be estimated on the basis of typical proportions of sales of aggregate to non-aggregate.

Sand and Gravel Reserves	Tonnes	
1.1 Sand suitable for concreting ⁽¹⁾		
1.2 Sand suitable for mortar ⁽¹⁾		
1.3 Sand suitable for asphalt ⁽¹⁾		
1.4 Undifferentiated sand, where not included above ⁽¹⁾		
1.5 Gravel ⁽¹⁾		
1.6 Sand and gravel undifferentiated, where not included above ⁽¹⁾		
1.7 <i>Estimated % of total reserves allocated for non-aggregate use</i> ²		%

Crushed Rock Reserves	Tonnes	<i>1.13 Estimated % of total reserves allocated for non-aggregate use</i> ²
1.8 Limestone / Dolomite		%
1.9 Igneous and metamorphic rock		%
1.10 Sandstone (including gritstone, greywacke & quartzite)		%
1.11 Chalk		%
1.12 Ironstone		%

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2. SALES BY PRODUCT

2.1 Sand and Gravel (Land won and marine-dredged)

INSTRUCTIONS
 The term sand and gravel includes 'solid' sandstones and conglomerates that are loosely consolidated or weakly cemented and that are processed to produce sand and gravel, e.g. 'Sherwood Sandstone / Bunter' type sandstones and pebble beds. For sales of sand (fine aggregate) derived from crushing hard rocks, e.g. Carboniferous type sandstones, please return under question 2.2.7.

GUIDANCE NOTES - please read these notes before completing the form (Section 2.1).

2.1 Questions 2.1.1 - 2.1.8 should be filled in for sales of sand and gravel excavated from a quarry (including as a result of ball clay or china clay extraction), or sales only of marine dredged (from English and Welsh waters) sand and gravel landed at a wharf. **For quarries, exclude** minerals produced elsewhere in England and Wales and brought to the site for processing. Where aggregate is taken to another site for processing please estimate the sales attributable to the actual excavated site. **For wharves, exclude** sand and gravel that has been transhipped to another wharf in England and Wales. (The receiving wharf will be completing these questions).

2.1.1 Including sand used in ready-mixed concrete, precast concrete products e.g. concrete bricks, blocks, tiles, pavers and pipes.

2.1.5 Including gravel used in ready-mixed concrete, precast concrete products e.g. concrete bricks, blocks, tiles, pavers and pipes.

2.1.6 Other aggregate uses include pipebedding, drainage media/layers.

2.1.7 Including 'as dug' material (hoggin).

2.1.8 Other non-aggregate / industrial uses for sand (and gravel) include for glassmaking, foundry use, chemicals, ceramics, water filtration, brickmaking (body / facing sand and calcium silicate bricks), sports and horticultural uses.

2.1.9 For wharves landing sand and gravel originating from outside English and Welsh waters only.

Sand for aggregate use

Tonnes

2.1.1	Sand for concreting or sharp sand	
2.1.2	Sand for use in mortar (building or soft sand)	
2.1.3	Sand for asphalt	

Gravel for aggregate use

Tonnes

2.1.4	Gravel for asphalt	
2.1.5	Gravel for concrete aggregate	
2.1.6	Other screened and graded gravels	

Sand and Gravel for aggregate use

Tonnes

2.1.7	Other sand and gravel e.g. for constructional fill, where not included above	
-------	--	--

Sand and Gravel for non-aggregate uses

Tonnes

2.1.8	Total for all non-aggregate uses	
-------	---	--

2.1.9 Landings of sand and gravel from OUTSIDE English and Welsh waters (wharves only)

GUIDANCE NOTES
 Please provide the tonnage of total sales for aggregate use originating from each country.

Country of origin	Landings of aggregate (tonnes)
Scotland	
Northern Ireland	
Republic of Ireland	
France	
The Netherlands	
Belgium	
Denmark	
Norway	
Other countries	
Unknown	
Total tonnage	

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2. SALES BY PRODUCT

2.2 Crushed Rock

(Quarries in England and Wales and Wharves at which hard rock from outside England and Wales is landed)

- Select mineral type: *(please tick box)*
- | | |
|---|---|
| <input type="checkbox"/> Igneous rock (including metamorphic) | <input type="checkbox"/> China clay 'stent' (unkaolinised rock) |
| <input type="checkbox"/> Limestone / Dolomite | <input type="checkbox"/> Colliery spoil (minestone) |
| <input type="checkbox"/> Sandstone | <input type="checkbox"/> Clay' and 'shale' for construction |
| <input type="checkbox"/> Chalk | <input type="checkbox"/> Slate waste |
| <input type="checkbox"/> Ironstone | |

If more than one mineral type, please print an extra copy of Questions 2 and 3, for each, and attach onto back of form.

DEFINITIONS

Limestone / Dolomite includes high magnesium limestone but not chalk.

Igneous rock includes andesite, basalt, diorite, dolerite, gabbro, gneiss, granite, granulite, hornfels, microgranite, rhyolite, schist, syenite, trachyte and tuff.

Sandstone includes greywacke, gritstone and quartzite.

Ironstone formerly of interest as a source of iron.

China clay aggregate (unkaolinised rock, 'stent') produced from the extraction and processing of china clay (kaolin). (Note: Sand and gravel sold as aggregate from china clay extraction should be entered under Q2.1, page 5).

Slate waste sold as aggregate (i.e. in construction / fill).

Colliery spoil (minestone) sold as aggregate (i.e. in construction / fill).

'Clay' and 'shale' sold as aggregate (i.e. in construction / fill).

GUIDANCE NOTES - please read these notes before completing the form (Section 2.2).

2.2 Questions 2.2 should be filled in for sales of crushed rocks excavated from the quarry or landed at the wharf. **Exclude** material produced elsewhere within England and Wales and brought to the site for processing. Where aggregate is taken to another site for processing please estimate the sales attributable to the actual excavated site.

For wharves, exclude material that has been transhipped to another wharf in England and Wales. (The receiving wharf will be completing these questions).

2.2.3 Includes granular sub-base (Types 1 and 2) for foundation work

2.2.6 Including coarse and fine aggregate used in ready-mixed concrete, precast concrete products e.g. concrete bricks, blocks, tiles, pavers and pipes.

2.2.7 Including pipebedding, drainage layers.

2.2.9 Crushed and / or 'as dug' material; excluding Type 1 and 2 sub-base.

2.2.10 Building stone includes dimension, ornamental, monumental and garden stone.

2.2.12/2 Where the product is calcined limestone or dolomite (lime / dolime) please report figure expressed as tonnage of original material used. Tonnage of lime, dolime and hydrated lime can be recalculated to carbonate by multiplying by 1.78, 2.16 and 1.35 respectively.

2.2.13 Including lime/dolime production (other than for steel manufacture), chemicals, fillers, FGD, powders, glassmaking and animal feed.

	Tonnes
2.2.1 Crushed rock for manufacturing asphalt on site i.e. coated (excluding weight of binder)	
2.2.2 Crushed rock for manufacturing asphalt off site (including third party operations)	
2.2.3 Uncoated roadstone (Type 1 and 2 materials)	
2.2.4 Uncoated roadstone (surface dressing chippings)	
2.2.5 Rail ballast	
2.2.6 For concrete aggregate including third party operations on or off site	
2.2.7 Other screened and graded aggregates	
2.2.8 Armourstone and gabion stone	
2.2.9 Other constructional uses, including fill	

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2.2 Crushed Rock (continued...)

Non-aggregate uses

		Tonnes
2.2.10	Building stone (excluding reconstituted stone)	
2.2.11	Cement manufacture	
2.2.12	Flux in iron and steel manufacture	
2.2.13	All other industrial uses	
2.2.14	Agricultural use on the land and horticulture	

2.2.15 **Landings of crushed rock aggregate from OUTSIDE England and Wales (wharves only)**

GUIDANCE NOTES
Please provide the relative proportion of total sales for aggregate use originating from each country.

Country of origin	Landings of aggregate Percent
Scotland	%
Northern Ireland	%
Republic of Ireland	%
France	%
Norway	%
Other countries	%
Unknown	%
	100%

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3. SALES BY DESTINATION

From quarries; marine dredged landings; and aggregates landed from outside England and Wales

Sales by Destination for **Aggregate Use only**

If more than one mineral type, please print an extra copy of Questions 2 and 3, for each, and attach onto back of form.

GUIDANCE NOTES

This information is **very** important for calculating inter-regional / sub-regional flows and consumption of aggregates. It is appreciated that sales destination will not always be known particularly for **collected** sales. For collect sales where the destination is not known please allocate to the sub-region where the quarry / wharf is located **Please make estimates wherever possible.**

Please indicate whether the destination is final by recording y (yes), n (no) or ? (unknown) in the final destination (FD) box.

Estimate for **aggregate sales only** the quantities delivered to initial destinations (sub-region), including those value-added sites (such as asphalt, ready-mix and precast concrete plants), during 2019 by **transport method** and **area** for aggregates excavated and / or sold from the site.

Principal Mode(s) of Transport - An estimate by % (which totals to 100% across road, rail and water).

⁽¹⁾ Where all deliveries are by road just tick

For a map of the Counties and Unitary Authorities comprising each Sub-Region please see map on page 11.

Sub-Region	FD	Tonnes		Percent of total			
		Sales of aggregate		Modes of transport			
		Sand and gravel	Crushed rock	Road ¹	Rail	Water	
EEN1	Bedfordshire (Central Bedfordshire, Bedford and Luton)						East of England
EEN2	Cambridgeshire and Peterborough						
EEN3	Essex, Southend and Thurrock						
EEN4	Hertfordshire						
EEN5	Norfolk						
EEN6	Suffolk						
EEN7	Unknown but somewhere in the East of England						
EMD1	Derbyshire and Peak District National Park						East Midlands
EMD2	Leicestershire and Rutland						
EMD3	Lincolnshire						
EMD4	Northamptonshire						
EMD5	Nottinghamshire						
EMD6	Unknown but somewhere in the East Midlands						
LON1	East London						London
LON2	West London						
LON3	Unknown but somewhere in Greater London						
NEA1	Durham						North East
NEA2	Northumberland and the National Park						
NEA3	Tees Valley						
NEA4	Tyne and Wear						
NEA5	Unknown but somewhere in the North East						
NWE1	Cheshire (Cheshire West and Chester, and Cheshire East)						North West
NWE2	Cumbria and Lake District National Park						
NWE3	Greater Manchester, Merseyside, Halton & Warrington						
NWE4	Lancashire, Blackpool and Blackburn with Darwen						
NWE5	Unknown but somewhere in the North West						

CONTINUED OVERLEAF....

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3. SALES BY DESTINATION (continued...)

Sub-Region	FD	Tonnes		Percent of total			
		Sales of aggregate		Modes of transport			
		Sand and gravel	Crushed rock	Road ¹	Rail	Water	
SEA1	Berkshire						South East
SEA2	Buckinghamshire and Milton Keynes						
SEA3	East Sussex and Brighton and Hove						
SEA4	Hampshire and the Isle of Wight						
SEA5	Kent and Medway						
SEA6	Oxfordshire						
SEA7	Surrey						
SEA8	West Sussex						
SEA9	Unknown but somewhere in the South East						
SWE1	West Of England (Avon)						South West
SWE2	Cornwall and Isles of Scilly						
SWE3	Devon, Plymouth, Torbay and Dartmoor National Park						
SWE4	Dorset						
SWE5	Gloucestershire						
SWE6	Somerset and Exmoor National Park						
SWE7	Wiltshire and Swindon						
SWE8	Unknown but somewhere in the South West						
WMD1	Herefordshire						West Midlands
WMD2	Shropshire and Telford and Wrekin						
WMD3	Staffordshire						
WMD4	Warwickshire						
WMD5	Worcestershire						
WMD6	Remainder of West Midlands						
WMD7	Unknown but somewhere in the West Midlands						
YHU1	Humber (East Riding, North Lincolnshire and North East Lincolnshire)						Yorkshire and the Humber
YHU2	North Yorks, Yorkshire Dales and North York Moors National Parks						
YHU3	South Yorkshire						
YHU4	West Yorkshire						
YHU5	Unknown but somewhere in Yorks & the Humber						

PLEASE PROVIDE TOTALS OVERLEAF....

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3. SALES BY DESTINATION (continued...)

Sub-Region		FD	Tonnes		Percent of total			
			Sand and gravel	Crushed rock	Modes of transport			
					Road ¹	Rail	Water	
WLS1	North East Wales							North Wales
WLS2	North West Wales							
WLS3	Unknown but somewhere in North Wales							
WLS4	South East Wales							South Wales
WLS5	Remainder of South Wales							
WLS6	Unknown but somewhere in South Wales							
SCT1	Scotland							Elsewhere
NIR1	Northern Ireland							
RPI1	Republic of Ireland							
EUR1	Mainland Europe							
UNK1	Unknown destination							

MAP OF THE AGGREGATE MINERALS SURVEY SUB-REGIONS AND THE AUTHORITIES THEY INCLUDE



Based on OS Boundary-Line. This map contains OS data © Crown copyright and database right 2020.

Form B – Aggregate mineral sites granted or refused planning permission and the numbers of planning applications withdrawn during the period 2010 to 2019

Aggregate Minerals Survey (AMS) 2019

Aggregate Minerals Survey (AMS) 2019

Aggregate Minerals Survey

This DELTA collection replaces the excel based Form B data collection of the Aggregate Minerals Survey. The information provided is essential to the preparation of the Aggregate Minerals Survey 2019 and your co-operation is really appreciated.

This collection will be for planning application data from 1 January 2015 until 31 December 2019. Information for planning applications decided or withdrawn between these dates should be entered in the form along with any applications awaiting decision as at 31 December 2019. **However, if you have no data to report you should still check the box for no data to report, so we know you have submitted a nil return.**

Whilst there is no statutory requirement to complete this form, we have always had very high levels of participation from Mineral Planning Authorities and this has helped to ensure that the resulting Aggregate Minerals Survey report can provide useful and accurate information which is useful to both MHCLG, industry and also for local authorities in planning for minerals in their own areas.

If you have any queries related to the data to be supplied or definitions and specific aggregate guidance please contact Chloe Wrighton (chig@bgs.ac.uk).

If you require the bulk-upload template, you can download this from [here](#).

Do you have any data to report on?

- Yes - Data to report
 No - NIL Return

This question has now become locked as a Planning Application Reference/Site Name has been provided below.

Site Application Details

			Planning Application Reference
Site Name	Alternate name by which site is known		
Site Address including postcode			
Site Type			
Mineral Type 1			
Permitted annual level of production of this mineral type from the site for aggregate uses (Tonnes)	Permitted annual level of production of this mineral type from the site for non-aggregate uses (Tonnes)		
Proposed production per annum for aggregate uses (Tonnes)	Proposed production per annum for non-aggregate uses (Tonnes)	Mineral Type 1 Proposed production further explanation	
Reserves for aggregate uses (Tonnes)	Reserves for non-aggregate uses (Tonnes)	Mineral Type 1 Reserves further explanation	
Mineral Type 2			
Permitted annual level of production for Mineral Type 2 from the site for aggregate uses (Tonnes)	Permitted annual level of production for Mineral Type 2 from the site for non-aggregate uses (Tonnes)		
Proposed production per annum for Mineral Type 2 for aggregate uses (Tonnes)	Proposed production per annum for Mineral Type 2 for non-aggregate uses (Tonnes)	Mineral Type 2 Proposed production further explanation	
Reserves for Mineral type 2 reserves for aggregate uses (Tonnes)	Mineral type 2 reserves for non-aggregate uses (Tonnes)	Mineral Type 2 Reserves further explanation	
Application status			
Year of decision	Month of decision		
Year permission expires	Expiration details further explanation		
National Grid Reference			
(2 digit code)	(3 digit easting)	(3 digit northing)	

Aggregate Minerals Survey (AMS) 2019

GIS Grid Reference

Easting Northing

Environmental Sensitivity Details

Please indicate if the area for extraction within the planning application is **wholly or partly** within the listed designation.
 (A site may fall within more than one designation e.g. AONB and SSSI, and SSSI and SPA/SAC. National Parks includes The Broads and The New Forest)

- | | | |
|--|---|--|
| NP
<input type="checkbox"/> (National Park) | AONB
<input type="checkbox"/> (Area of Outstanding Natural Beauty) | SSSI
<input type="checkbox"/> (Site of Special Scientific Interest) |
| SPA / SAC
<input type="checkbox"/> (Special Protection Area/Special Area of Conservation) | GB
<input type="checkbox"/> (Green Belt) | NR
<input type="checkbox"/> (National Nature Reserve) |

Please tick here if the area of extraction within the planning application is **wholly or partly** within an area allocated for mineral extraction (allocated site, preferred area, area of search) in the MPAs development plan. Planning application within development plan

Appendix G – Glossary of terms and abbreviations

Active/Inactive	Sites are described as <i>active</i> where material was produced at any time during 2019 and as <i>inactive</i> when the site was not in production during that period. Inactive sites include those that have been worked in the past and those that have yet to begin. The term 'inactive' replaces the term 'dormant' used in surveys prior to AM97 as the term 'dormant' acquired a more specific meaning under the terms of the Planning & Compensation Act 1991 and the Environment Act 1995.
Aggregate	Granular or particulate material which is suitable for use (on its own or with the addition of cement, lime or bituminous binder) in construction as concrete, mortar, roadstone, asphalt or drainage courses, or for use as constructional fill or railway ballast (also referred to as 'construction aggregates').
Aggregate mineral	Naturally-occurring material suitable for aggregate uses.
Primary aggregates	Aggregate produced from naturally-occurring mineral deposits and used for the first time.
Secondary aggregates	This term is becoming increasingly unclear and requires more rigorous definition. Aggregate which originates as a waste of other quarrying and mining operations, or from industrial processes (e.g. colliery waste or minestone, blast furnace slag, power station ash, china clay waste, slate waste), but excluding chalk and clay/shale worked primarily for aggregate purposes.
Aggregate sales	The tonnage of mineral leaving a quarry/wharf as measured at a weighbridge.
Aggregate consumption	Apparent consumption is calculated from data on known sales within each home region (or sub-region), plus known imports from other regions (or sub-regions) and, where appropriate, known imports from outside England and Wales (Scotland, Northern Ireland and Europe). It is less than total consumption due to unallocated sales of unknown destination which, therefore, cannot be attributed to any consuming region (or sub-region). Further, some caution should be used in interpreting the consumption figures as they are calculated from the principal destination of aggregate flows. Final sales, particularly for rail-borne aggregates, may be to other regions. For example, some material transported to the East of England may be finally consumed in London and the South East.
All sites	All land-won mineral workings for the production of aggregates.
AONB	Area of Outstanding Natural Beauty designated under the National Parks and Access to the Countryside Act 1949 / Countryside and Rights of Way Act 2000 (as amended) for the purposes of conserving and enhancing their natural beauty.
AWP	Aggregate Working Party (in England).
BAA	British Aggregates Association, the trade body for independent quarry companies.

Borrow pit	A site for the extraction of aggregate minerals over a limited period, for exclusive use in a specific construction project, which will usually be close to or contiguous with the site.
Construction fill	Fill material that will bear loads (e.g. in suitably designed embankments) as distinct from landfill to occupy voids and not specially intended to bear loads.
Dormant site	Dormant sites may be defined in accordance with the Planning & Compensation Act 1991 (PCA 1991) or the Environment Act 1995 (EA 1995). In respect of the PCA 1991 the term defines a site where mineral planning permission was granted after 21 July 1943 and before 1 July 1948 and where no working has been carried out to any substantial extent in, on or under the land to which the permission relates between 1 May 1989 and 30 April 1991 inclusive. In respect of the EA 1995 the term defines a site where the predominant mineral permission(s) was granted after 30 June 1948 and before 22 February 1982, and where no mineral development has been carried out to any substantial extent in, on or under the site between 22 February 1982 and 6 June 1995 inclusive. The term “substantial extent” is not defined in statute and, in the absence of case law, the words have their common or everyday meaning. It is unlawful to carry out mineral working on a dormant site until full modern planning conditions have been approved by the relevant Mineral Planning Authority (MPA). There is no time limit for the submission to the relevant MPA of an application for the determination of such conditions. Dormant sites do not contain permitted reserves.
Extension	A site granted permission for the extraction of aggregate minerals for which there has been a change in the size (laterally or vertically) of the development from the original planning consent.
Green Belt	An area of land designated in development plans within which the fundamental aim is to prevent urban sprawl by keeping that land permanently open.
Greenfield site	For the purposes of the Aggregate Minerals Survey, land previously in agriculture or non-urban/industrial use which becomes the location for a new mineral operation. Analogous to new quarries.
Hoggin	A term mainly applied in southern England for ‘as raised’ clayey sand and gravel, used as dug for constructional fill for low-grade purposes, paths etc. (‘A natural deposit of stony sand and gravel containing a small admixture of clay which is sufficient to hold the mass together without affecting the interlocking properties of the coarser particles.’ Mineral Dossier on Sand and Gravel. Mineral Resources Consultative Committee, 1970).
New quarries	A totally new mineral operation.
Landbank	A stock of planning permissions to which valid conditions are attached for the winning and working of minerals. It is composed of the sum of all permitted reserves at active and inactive sites (but not dormant sites) at a given point in time, and for a given area.
Marine wharves	Points at which marine-dredged sand and gravel are landed and processed. Some marine wharves are used for landing crushed rock.

MPA	Mineral Planning Authority, responsible for planning control over mineral working within its area.
mpa	Mineral Products Association, the trade association which represents quarry operators, who together account for more than 90% of the quarried aggregate materials in Great Britain.
Mt	Million tonnes (i.e. Megatonne).
NNR	National Nature Reserves designated by Natural England or Natural Resources Wales in accordance with the Wildlife and Countryside Act 1981 to protect important habitats, species and geology, and to provide 'outdoor laboratories' for research.
National Park	National Parks are designated under the National Parks and Access to the Countryside Act 1949 (as amended). Their aims are to conserve and enhance the natural beauty, wildlife and cultural heritage they contain, and to promote opportunities and enjoyment by the public of the areas they cover. An independent National Park Authority administers each Park. The Norfolk and Suffolk Broads are also administered by their own independent authority and enjoy protection equivalent to that of a National Park.
Non-aggregate uses	Use of material suitable for aggregate purposes (see Aggregate above) for uses other than constructional and normal aggregate applications. Such uses could include ingredients in industrial processes, e.g. the manufacture of cement, chemicals, refractories, iron/steel, glass, ceramics, sugar, plastics, rubber, paper and sealants. It would not cover the use of finely crushed material used to manufacture concrete bricks, blocks, pipes and tiles (this is classed as aggregate). However, it would, for example, include lime use in bricks or blocks. The term also covers building, dimension, memorial, paving, walling and armour stone (e.g. for sea/river defenses) (i.e. in all cases where not crushed) and ground limestone or dolomite use in agricultural fertilizers and feedstuffs. The term 'industrial uses' is sometimes used synonymously with 'non-aggregate uses' but this term could imply the exclusion of building stone and material for agricultural use.
Permitted reserve	The tonnage of mineral in a site (including stockpiles) for which full planning consent (planning permission with determined conditions attached) for extraction exists. Such sites may be operational or inactive. Inactive sites include those where extraction has been undertaken in the past and where permitted reserves still remain and those where planning permission has been granted but extraction has yet to begin. Dormant sites, as defined by the Planning & Compensation Act 1991 and the Environment Act 1995, cannot be worked until new schemes of conditions have been determined and therefore do not contain permitted reserves. See also landbank.
RAWP	Regional Aggregate Working Party (in Wales).
SAC	Special Areas of Conservation designated in accordance with regulation 3 of the Conservation of Habitats and Species Regulations 2017 have been given special protection as important conservation sites. SACs are also SSSIs.

- SPA Special Protection Areas designated in accordance with regulation 15 of the Conservation of Habitats and Species Regulations 2017 have been identified as being of international importance for the breeding, feeding, wintering or the migration of rare and vulnerable species of birds. SPAs are also SSSIs.
- SSSI Site of Special Scientific Interest designated by Natural England or Natural Resources Wales in accordance with the Wildlife and Countryside Act 1981 so as to conserve areas of special interest for their flora, fauna, geological or geomorphological interest.

Appendix H – Bibliography

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Each Aggregate Working Party produces Annual Monitoring Survey reports. The results of the AM2019 Survey will also appear in the AWP Annual Reports for 2019. These are available from the AWP Technical Secretaries (see Appendix I).

Appendix I – Aggregate Working Parties: Secretaries (as from March 2021)

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Appendix J – Members of the AM2019 National Collation Steering Group

Ministry of Housing, Communities and Local Government

Lonek Wojtulewicz
Planning & Infrastructure Division

Aimee Smith
Planning & Infrastructure Division

Welsh Government

Joanne Smith
Planning Policy Branch

Aggregate Working Parties and Planning Officers Society

Lorraine Brooks, Gloucestershire County Council – Planning Officers Society

Helen Conlon, Capita - Secretary, East Midlands and West Midlands AWP (from November 2020)

Maria Cotton, Capita - Secretary, East Midlands and West Midlands AWP (until November 2020)

Richard Greaves, Essex County Council – Chair, East of England AWP / Planning Officer's Society

Gary Nancarrow, Flintshire County Council - Secretary, North Wales (RAWP)

Vicky Perkin, North Yorkshire Council – Chair, Yorkshire and the Humber AWP

Richard Read
Secretary, South East and London AWP

Vanessa Rowell, Capita - Secretary, North West and Yorkshire and the Humber AWP

Jerry Smith, Central Bedfordshire Council - Secretary, East of England AWP

Melissa Spriggs, Hampshire County Council - South East and London AWP

Kevin Tipple, Northumberland County Council Secretary, North East AWP

Hugh Towns, Carmarthenshire County Council - Secretary, South Wales AWP

Julia Webberley, David Jarvis Associates – Secretary, South West AWP

Mineral Products Association

Nick Horsley, Mineral Products Association

Mark North, Mineral Products Association

British Aggregates Association

Peter Huxtable, British Aggregates Association

Appendix K – AM2019 project team

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Dr Joseph Mankelow - Project Leader, Data Analysis, Enquiry Desk

Marcus Sen – Database Design and Development

Chloe Wrighton – Data Analysis, Enquiry Desk

Teresa Brown – Data Analysis

Don Cameron – Quality Assurance

Appendix L – Mineral Planning Authorities within Aggregate Working Party regions in 2019

REGION	Mineral Planning Authority
SOUTH WEST AWP	Bath and North East Somerset Council Bournemouth, Christchurch and Poole Council Bristol City Council Cornwall Council Dartmoor National Park Devon County Council Dorset Council Exmoor National Park Gloucestershire County Council Council of the Isles of Scilly North Somerset Council Plymouth City Council Somerset County Council South Gloucestershire Council Swindon Borough Council Torbay Council Wiltshire Council
SOUTH EAST AWP	Bracknell Forest Council Brighton and Hove City Council Buckinghamshire County Council East Sussex County Council Hampshire County Council Isle of Wight Council Kent County Council Medway Council Milton Keynes Council New Forest National Park Oxfordshire County Council Portsmouth City Council Reading Borough Council Slough Borough Council South Downs National Park Southampton City Council Surrey County Council West Berkshire Council West Sussex County Council Royal Borough of Windsor and Maidenhead Wokingham Borough Council
LONDON AWP	London Borough of Barking and Dagenham London Borough of Barnet London Borough of Bexley London Borough of Brent London Borough of Bromley London Borough of Camden London Borough of Croydon London Borough of Ealing London Borough of Enfield London Borough of Greenwich London Borough of Hackney London Borough of Hammersmith and Fulham London Borough of Haringey London Borough of Harrow London Borough of Havering London Borough of Hillingdon London Borough of Hounslow London Borough of Islington

REGION	Mineral Planning Authority
LONDON AWP CONTINUED	London Borough of Kensington and Chelsea London Borough of Lambeth London Borough of Lewisham London Borough of Merton London Borough of Newham London Borough of Redbridge London Borough of Richmond upon Thames London Borough of Southwark London Borough of Sutton London Borough of Tower Hamlets London Borough of Waltham Forest London Borough of Wandsworth Westminster City Council London, City of Royal Borough of Kingston upon Thames
EAST OF ENGLAND AWP	Bedford Borough Council Broads Authority Cambridgeshire County Council Central Bedfordshire Council Essex County Council Hertfordshire County Council Luton Borough Council Norfolk County Council Peterborough City Council Southend-on-Sea Borough Council Suffolk County Council Thurrock Council
EAST MIDLANDS AWP	Derby City Council Derbyshire County Council Leicester City Council Leicestershire County Council Lincolnshire County Council Northamptonshire County Council Nottingham City Council Nottinghamshire County Council Peak District National Park Rutland County Council
WEST MIDLANDS AWP	Birmingham City Council Coventry City Council Dudley Metropolitan Borough Council Herefordshire Council Sandwell Metropolitan Borough Council Shropshire Council Solihull Metropolitan Borough Council Staffordshire County Council Stoke-on-Trent City Council Telford & Wrekin Council Walsall Council Warwickshire County Council City of Wolverhampton Council Worcestershire County Council
NORTH WEST AWP	Blackburn with Darwen Borough Council Blackpool Borough Council Bolton Metropolitan Borough Council Bury Metropolitan Borough Council Cheshire East Council Cheshire West and Chester Council Cumbria County Council Halton Borough Council Knowsley Metropolitan Borough Council Lake District National Park Lancashire County Council

REGION	Mineral Planning Authority
NORTH WEST AWP CONTINUED	Liverpool City Council Manchester City Council Oldham Metropolitan Borough Council Rochdale Metropolitan Borough Council Salford City Council Sefton Metropolitan Borough Council St. Helens Metropolitan Borough Council Stockport Metropolitan Borough Council Tameside Metropolitan Borough Council Trafford Metropolitan Borough Council Warrington Borough Council Wigan Metropolitan Borough Council Wirral Council
YORKSHIRE & THE HUMBER AWP	Barnsley Metropolitan Borough Council Bradford Metropolitan District Council Calderdale Metropolitan Borough Council City of York Council Doncaster Metropolitan Borough Council East Riding of Yorkshire Council Kingston-upon-Hull City Council Kirklees Council Leeds City Council North East Lincolnshire Council North Lincolnshire Council North York Moors National Park North Yorkshire County Council Rotherham Metropolitan Borough Council Sheffield City Council Wakefield Metropolitan District Council Yorkshire Dales National Park
NORTH EAST AWP	Darlington Borough Council Durham County Council Gateshead Council Hartlepool Borough Council Middlesbrough Borough Council Newcastle City Council North Tyneside Council Northumberland County Council Northumberland National Park Redcar and Cleveland Borough Council South Tyneside Council Stockton-on-Tees Borough Council Sunderland City Council
SOUTH WALES AWP	Blaenau Gwent County Borough Council Brecon Beacons National Park Bridgend County Borough Council Caerphilly County Borough Council Cardiff Council Carmarthenshire County Council Ceredigion County Council Merthyr Tydfil County Borough Council Monmouthshire County Council Neath Port Talbot County Borough Council Newport City Council Pembrokeshire County Council Pembrokeshire Coast National Park Powys County Council Rhondda Cynon Taf County Borough Council Swansea City and Borough Council Torfaen County Borough Council Vale of Glamorgan Council

REGION	Mineral Planning Authority
NORTH WALES AWP	Conwy County Borough Council Denbighshire County Council Flintshire County Council Gwynedd County Council Isle of Anglesey County Council Snowdonia National Park Wrexham County Borough Council