British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Llywodraeth Cynulliad Cymru
Welsh Assembly Government

Collation of the results of the 2009 aggregate minerals survey for England and Wales

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British Geological Survey

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Collation of the Aggregate Minerals 2009 Survey

1. Introduction

1.1 Aggregate Minerals surveys, based at four-yearly intervals since 1973, provide an in-depth and up-to-date understanding of regional and national sales, inter-regional flows, transportation, consumption and permitted reserves of primary aggregates. More recently, complementary surveys have provided information on the arisings and use of alternatives to primary aggregates such as selected mineral wastes, construction, demolition and extraction wastes, and industrial by-products. All these surveys are used to inform Government on the production, movement and consumption of aggregates in order to monitor and revise, as necessary, the *Aggregate Guidelines*, which support Minerals Policy Statement 1: *Planning and Minerals*. The data are made publicly available.

1.2 This report is the collation of the data for primary aggregates for 2009. In addition to presenting information on regional and national sales, consumption, and permitted reserves of primary aggregates, the Aggregate Minerals 2009 survey 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of aggregate minerals granted and refused planning permission and, for the first time, planning permission applications withdrawn or awaiting a decision, between 2006 and 2009, by site type and environmental designation.

1.3 The information is presented for England and Wales and for individual regions and was collected from aggregate producers by mineral planning authorities using a standard form (Appendix F). It was subsequently collated at regional level by the relevant Aggregate Working Party Secretary (see Appendix I) and at national level by the British Geological Survey on behalf of the Department for Communities and Local Government (DCLG) and the Welsh Assembly 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 (British Geological Survey, 2000), the Office of the Deputy Prime Minister for 2001 (British Geological Survey, 2003) and the Department for Communities and Local Government and the Welsh Assembly Government for 2005 (DCLG, 2007). Comparisons of sales, consumption and permitted reserves for these years and 2009 are provided in Tables D1 to D3.

1.4 The British Geological Survey was commissioned in January 2010 by DCLG to design and implement the Aggregate Minerals 2009 survey and to collate, interpret and report the results. The study was overseen by a Steering Group, which included representatives of DCLG, the Welsh Assembly Government, Aggregate Working Party, the Planning Officers' Society, the aggregates industry and environmental bodies (Appendix J).

Policy background

1.5 The key Government objectives and planning policies on minerals in England are set out in Minerals Policy Statement 1: *Planning and Minerals* (2006) and in Annex 1: *Aggregates*. The *National and Regional Guidelines for Aggregates Provision in*

England, 2005 to 2020 were published by DCLG in 2009. They indicate how provision for the supply of aggregates should be made to meet anticipated need to 2020. DCLG is committed to keeping these guidelines under review. The DCLG monitors them on an annual basis and they will be revised when necessary. *Mineral Planning Policy Wales* (2000) sets out the land-use planning policy guidance of the Welsh Assembly Government in relation to minerals extraction and development in Wales. It includes all minerals except marine aggregates. Minerals Technical Advice Note 1: *Aggregates* (2004) sets out detailed advice on the mechanisms for delivering policy for land-based aggregates extraction by mineral planning authorities and the aggregates industry.

1.6 The results of the Aggregate Minerals 2009 Survey will be used to:

- monitor and develop planning policies for the managed supply of aggregates in both England and Wales
- assist in monitoring and any review of the aggregates guidelines, the regional and sub-regional apportionment, which are reflected in relevant development plan documents respectively and
- inform all stakeholders of the current state of aggregates supply.

1.7 The results will also be used as a source of contextual data with respect of planning applications for the extraction of aggregates.

Aggregate Minerals 2009 survey

1.8 The Aggregate Minerals 2009 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. This form was forwarded to the following sites by mineral planning authorities in England and Wales for completion and return by quarry operators/owners:

- all active quarries producing land-won primary aggregates at some time during 2009, 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 2009 and
- marine wharves at which crushed rock from outside England and Wales was landed in 2009

1.9 There are 162 authorities in England and 25 in Wales designated as mineral planning authorities. 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 mineral planning authorities with no aggregate mineral workings, data were collected for all of the remaining authorities (some 108). Therefore, all mineral planning authorities where aggregates are extracted or landed participated in the survey.

1.10 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 and was over 90 per cent in all regions. Where figures were not forthcoming, and where feasible, estimates may have been made by the mineral planning authorities or aggregate working party secretaries. The proportion of estimates made by the mineral planning authorities or aggregate working party secretaries was very low representing 3.2 per cent of total sales, 2.9 per cent of total reserves and 7.3 per cent of destination data (used to calculate consumption) respectively. The survey results present data for **992** quarries, of which **197** were inactive worked in the past and a further **43** sites which have yet to be worked. Of the 752 active quarries surveyed, 351 were for crushed rock and 401 for land-won sand and gravel. The survey also included 67 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 4 and 5 and Table 18.

1.11 Sales and distribution data relate to 2009 and the permitted reserves were estimated at 31 December 2009. The information is presented by Aggregate Working Party Area (Maps 1 and 2) using the boundaries that were applicable as at 31 December 2009. Some regional boundaries have changed significantly from Aggregate Minerals surveys prior to 2001. This makes regional comparisons with older surveys more difficult. In England, the former Northern Region has been disbanded with Cumbria now added to, and forming part of, a larger North West Region. The remaining part of the former Northern Region has been renamed the North East. In the former South East Region, Essex, Bedfordshire and Hertfordshire, together with the whole of the former East Anglia Region now form part of the East of England Region. London, which was formerly in the South East Region, is now a separate region on its own. There have been no changes in Wales. The mineral planning authorities comprising the separate regions of England and Wales are shown on Maps 1 and 2 respectively and are also listed in Appendix L. Comparisons of sales, consumption and permitted reserves for the regions from 2001 are, for the first time, provided in Tables E1 to E3.

1.12 In all previous Aggregate Minerals Surveys, data on the movement of aggregates was collected on the basis of inter-regional flows. For the Aggregate Minerals 2005 survey the British Geographical Survey was, additionally, asked to consider the movement of aggregates on a sub-regional basis. The sub-regions (except for London) were based on NUTS2 units, which stand for Nomenclature of Units for Territorial Statistics. The NUTS2 boundaries are consistent with aggregate working party boundaries allowing inter-regional flows to be calculated, as well as more detailed destination information. In order to allow better comparison with the aggregate working party annual monitoring reports, the sub-regions were changed for the survey. Changing the sub-regions does, however, make comparison with the Aggregate Minerals 2005 survey sub-regional results difficult. The sub-regions used for the survey are shown on Map 3. The sub-regional survey of sales by destination has enabled a large amount of additional information to be collected. However, this has created some problems in clearly summarising this new data within the limits of confidentiality considerations. Nevertheless, valuable additional information has been collected, including a more detailed analysis of primary aggregates consumption by sub-region. This new information is summarised in Tables 9, 10 and 11.

1.13 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 1 per cent to total supply. As in conventional practice, landings of marine sand and gravel are assigned to the mineral planning authority in which the wharf is located.

1.14 Form B sought information on both the numbers of sites granted (or refused, withdrawn or awaiting) planning permission to supply wholly, or in part, aggregate minerals, and the quantity of mineral that these contained for the period 2006 to 2009. Form B was completed by individual mineral planning authorities and compiled into a database by British Geographical Survey. This survey provides valuable information on the extent that permitted reserves of primary aggregates are being supplemented by new permissions and, with the sales data, the extent that they are being depleted.

1.15 In preparing this report, the 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 DCLG/Welsh Assembly Government, nor the British Geographical Survey can be held responsible for any errors contained therein.

1.16 Regional collations of the 2009 survey data will also be published in the aggregate working party Annual Reports. These are available from the aggregate working party Secretaries (see Appendix I). These contain more detailed information, generally at mineral planning authority (often County) level.

Confidentiality

1.17 Data on 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 Aggregate Minerals 2009 survey, the Mineral Products Association, members of which account for a major proportion of total sales, relaxed these confidentiality restrictions. 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. For non-Minerals Product Association members the normal three company rule has been applied.

Survey coverage

1.18 The Aggregate Minerals 2009 collation has mainly been carried out electronically. Forms A and B were prepared in Microsoft Excel and whilst often completed manually, all the data were input electronically so that collation at mineral planning authority, regional and national level was greatly simplified. Customised Microsoft Access databases were designed and created specifically for the survey to assist the mineral planning authorities and aggregate working party secretaries in

undertaking their collations. The regionally collated data provided to the British Geographical Survey were input into an Aggregate Minerals 2009 Microsoft Access database to undertake the National Collation.

1.19 The Aggregate Minerals 2009 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. However, as weighbridge sales were the principle source of statistics on 'production' in previous surveys readers should not draw any statistical inferences from the change in terminology.

1.20 The main constraints on the data continue to be confidentiality considerations and 'unallocated sales' of unknown destination. Total unallocated sales are smaller than for Aggregate Minerals 2005 (Table 2b) but remain higher than for Aggregate Minerals 2001. This is due to a number of factors, including the more complex requirement for sub-regional flows and also stricter confidentiality rules in carrying out the survey that did not allow unallocated sales to be followed up directly with companies.

1.21 The Office for National Statistics, through the Annual Minerals Raised Inquiry, also collects and publishes information on extractors' sales of aggregates within Great Britain on behalf of DCLG. Unlike Aggregate Minerals surveys, this is a statutory survey carried out under the Statistics of Trade Act 1947. The results are published annually in the Business Monitor PA 1007 *Minerals Extraction in Great Britain*. To simplify the Aggregate Minerals 2009 survey the questions were generally harmonised with those in Annual Minerals Raised Inquiry.

1.22 The prime purpose of the two surveys is different. Annual Minerals Raised Inquiry, which also covers minerals other than aggregates, is designed to provide a consistent time series of commodity data for economic/market analysis mainly by central government, but also industry and market analysts. The Aggregate Minerals survey aims to provide comprehensive data for monitoring and facilitating aggregates provision at local, regional and national level. The output is used mainly by Government (DCLG and the Welsh Assembly Government), mineral planning authorities, industry and environmental interest groups. Only Annual Minerals Raised Inquiry collects information on employment and the value of sales and only Aggregate Minerals surveys collect data on the destination of sales, consumption, permitted reserves and information for environmentally designated areas.

1.23 A historical comparison of the data presented in both the Annual Minerals Raised Inquiry and Aggregate Minerals surveys indicates that Aggregate Minerals surveys show somewhat larger totals for aggregate sales. This is believed to be due to a better coverage of sites. For 2009 the respective totals for England and Wales were: Annual Minerals Raised Inquiry 118.4 Mt against 119.1 Mt for Aggregate Minerals 2009.

Acknowledgements

1.24 The authors wish to record their thanks to the aggregates industry, the Mineral Products Association and the British Aggregates Association for their co-operation at all stages in the execution of the survey and the collation of its results. Special mention is due to the officers of mineral planning authorities and the secretaries of the aggregate working parties for their collation of the data at local and regional level, respectively. The secretaries' names and contact addresses are given in Appendix I. Particular thanks are also due to Mark Plummer (the Chairman of the Steering Group) at the Department for Communities and Local Government, and the members of the Steering Group (Appendix J) for their support and guidance.

Commentary

2. National overview

2.1 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 mineral planning authority and sub-region, imports by sub-region and consumption by sub-region. Permitted reserves of aggregates at 31 December 2009 by region and by environmental designation are summarised in Tables 12 and 13. The numbers of sites granted and refused planning 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 permission application has been withdrawn are summarised in Tables 15 and 16. 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 Aggregate Minerals surveys are given in Appendix D and, in relation to the modern regions used for the Aggregate Minerals 2001, 2005 and 2009 surveys, Appendix E.

Sales

2.2 **Total sales of primary aggregates** produced in England and Wales, including marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales, were **119.1 Mt** in 2009 of which **89 per cent** was produced in England. **Total sales declined by about 31 per cent between 2005 (172.7 Mt) and 2009 (119.1 Mt),** with land-won sand and gravel showing the largest fall (36 per cent) from **58.2 Mt** in 2005 to **37.4 Mt** in 2009. Sales of marine-dredged sand and gravel declined (24 per cent) from **14.4 Mt** in 2005 to **11.0 Mt** in 2009. Sales of crushed rock declined (29 per cent) from **100 Mt** in 2005 to **70.7 Mt** in 2009. In 2009 total sales of primary aggregates were down **151 Mt** on the largest output in previous Aggregate Minerals surveys in **1989** when total primary aggregate sales were **269.6 Mt**.

2.3 **Primary aggregates sales** in England and Wales, comprised **31.4 per cent land-won and 9.2 per cent marine-dredged sand and gravel, with crushed rock making up the remaining 59.4 per cent**. Limestone/dolomite was by far the most important source of crushed rock aggregate, accounting for 66 per cent of the total, followed by igneous rock (24 per cent), sandstone (9 per cent), and minor chalk and ironstone (<1 per cent). **Marine sand and gravel supplied about 22 per cent of total sand and gravel output in England, compared with 47 per cent in Wales.**

2.4 **National Parks and Area of Outstanding Natural Beautys cover 23.8 per cent of the land area of England and 23.4 per cent of Wales. In England and Wales 10.4 per cent and 4.8 per cent of total crushed rock sales were supplied from National Parks and Areas of Outstanding Natural Beauty respectively, and 0.5 per cent and 4.5 per cent, respectively for land-won sand and gravel.**

Consumption

2.5 The Aggregate Minerals surveys are the only comprehensive measurement of apparent consumption of primary aggregates by region (and now sub-region). **Total apparent consumption** of primary aggregates was **119.1 Mt** in 2009, of which **109.3 Mt** was used in England and **9.8 Mt** in Wales. Total consumption should be somewhat higher than total sales because it includes imports from outside England and Wales. However, total **unallocated sales** of unknown destination were **2.3 Mt in 2009.** This is mainly due to confidentiality constraints, which prevented back checking. Taking into account unallocated sales, the total consumption of primary aggregates in England and Wales was about **121.4 Mt** in 2009.

National flows

2.6 **England was a net importer of primary aggregates (3.2 Mt) and Wales a net exporter (3.1 Mt).** Total exports from Wales comprised 2.6 Mt of crushed rock and 0.1 Mt of sand and gravel. Imports were 0.8 Mt of crushed rock and 0.1 Mt sand and gravel. **Some 2.5 Mt (or 2.1 per cent of total aggregates consumption) 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 and London principally from Scotland and Norway, but with small quantities from Northern Ireland, Ireland and France. Total imports from outside England and Wales were less than in 2005 (3 Mt).

2.7 Total exports of primary aggregates were insignificant. Substantial quantities (about 5.7 Mt) of marine sand and gravel dredged from the UK Continental Shelf were landed at foreign ports in 2009. A further 4.5 Mt of marine sand and gravel were used for contract fill and beach nourishment (Source: The Crown Estate). These flows are not covered by Aggregate Minerals surveys. Due to the quantity of marine sand and gravel landed at foreign ports, the UK is a net exporter of aggregates.

Reserves

2.8 **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 2009 were **4 547 Mt**. Crushed rock accounted for **88 per cent (3 982 Mt)** and sand and gravel the remaining **12 per cent (565 Mt)**. Of total permitted reserves, 80 per cent were in active sites and 87 per cent in England. Sites classified as ‘Dormant’ under the terms of the Planning & Compensation Act 1991 and the Environment Act 1995 contained **411 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 mineral planning authority. Total permitted reserves of sand and gravel for non-aggregate use (mainly silica sand) was 30.4 Mt in 2009. Total permitted reserves of crushed rock for non-aggregate use were 827.7 Mt of which 88 per cent was limestone/dolomite.

3. Sales of primary aggregates

3.1 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 Aggregate Minerals survey since 1973 and, in relation to the modern regions used for the Aggregate Minerals 2001, Aggregate Minerals 2005 and Aggregate Minerals 2009 surveys, Table E1. National and regional sales are also shown on Map 4.

Regional sales

3.2 The **East Midlands** continued to be by far the largest producing region at **26.9 Mt, equivalent to 23 per cent** of total primary **land-won** aggregate sales in England and Wales. The **South West (20.8 Mt)** was the second largest source of land-won primary aggregates. Excluding London, North Wales (3.9 Mt) and the North East (4.6 Mt) were the smallest producing regions of land-won primary aggregates.

3.3 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 (30 per cent)** and the **South East** for the highest proportion of **sand and gravel (including marine-dredged) sales (23 per cent),** only slightly higher than the East of England (21 per cent)**.**

3.4 Greater London **(0.6 Mt),** the North East **(0.8 Mt)**, North Wales **(0.6 Mt)** and South Wales **(0.1 Mt)** produced the smallest amounts of land-won sand and gravel. Conversely, East of England **(0.3 Mt)** and the South East **(1.3 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 very 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.

3.5 The South West was the largest producer of limestone for aggregate use at **15.2 Mt** (32 per cent of total limestone sales) followed by the East Midlands with **10.7 Mt** (23 per cent). The East Midlands accounted for 63 per cent **(10.7 Mt)** of total igneous rock aggregates sales making it, by far, the largest producer.

Comparison with 2005

3.6 Almost all regions showed a **fall in total primary aggregate sales between 2005 and 2009** across all sectors of land-won sand and gravel, marine sand and gravel and crushed rock. **Sand and gravel sales in England fell 33 per cent** between 2005 (69.8Mt) and 2009 (46.9 Mt) whilst **sand and gravel sales for Wales fell 50 per cent** between 2005 (2.8Mt) and 2009 (1.4 Mt). **Crushed rock sales in England fell 29 per cent** between 2005 (83.5 Mt) and 2009 (59.3 Mt) and **crushed rock sales in Wales fell 31 per cent** between 2005 (16.5 Mt) and 2009 (11.4 Mt). **South Wales and North Wales showed the largest fall in total sand and gravel**

sales, **51 per cent and 50 per cent respectively** whilst London (16 per cent fall) and the East of England (28 per cent fall) showed the smallest. **North Wales and the West Midlands showed the largest fall in crushed rock sales 43 per cent and 42 per cent respectively**, closely followed by the North East and East of England (41 per cent). **Only the South East showed a modest (5 per cent) increase in crushed rock sales** between 2005 and 2009.

4. End uses

4.1 Two main categories of end use data were collected namely for the various types of aggregates and for non-aggregate ('industrial') uses, where the latter were associated with aggregates extraction. The Aggregate Minerals 2009 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 covered. 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

4.2 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.

All primary aggregates

4.3 Of total aggregate sales in 2009, 39 per cent were used as aggregates concreting aggregate, 23 per cent as roadstone (coated as asphalt and uncoated), and 15 per cent for other construction uses, including fill.

Sand and gravel

4.4 Concreting aggregate again proved to be the largest product for both land-won and marine-dredged sand and gravel, accounting for some 62 per cent and 78 per cent of the respective totals for aggregate use. The other main products were, other screened and graded gravels, construction fill and sand suitable for use in mortar.

Crushed rock

4.5 Crushed rock has a wider range of uses including as a source of both coarse and fine **concrete aggregate (21 per cent),** and for **other construction uses, including fill (18 per cent).** 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 27 Mt or 38.2 per cent** of total aggregate sales. Of this total 13.3 Mt was sold as coated roadstone. Other smaller specialist uses, include railway track ballast (1.7 Mt) and armour stone (0.3 Mt).

Non-aggregate uses

4.6 Although the data for non-aggregates uses (mainly limestone/dolomite and, to a lesser extent, chalk) are incomplete (see above), the most important uses were cement manufacture, a flux in iron/steel making, other unspecified industrial uses and agricultural use (Table A3 and A5). Recorded **non-aggregate uses of**

crushed rock were **12.5 Mt** in 2009, of which 91 per cent (11.4 Mt) was limestone/dolomite. The **East Midlands** accounted for **7.3 Mt** of the limestone/dolomite total.

4.7 **Sales of sand and gravel (mainly silica sand) for non-aggregate (industrial) uses were 2.8 Mt**, almost all of which was produced in England. The North West was the major producing region, contributing 1.2 Mt.

5. Inter-regional flows

5.1 The four yearly Aggregate Minerals surveys are the only published source of information on aggregate sales by destination (region). In 2009 information on sub-regional flows was also collected. The sub-regions are shown on Map 3. 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 2.3 Mt in 2009 (<2 per cent 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.

5.2 Maps 8 and 9 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 and 10 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).

Crushed rock

5.3 **Total exports** of crushed rock from **Wales to England were 2.6 Mt** compared with **0.23 Mt** in the opposite direction. The traditionally large crushed rock producers, the **East Midlands and South West** have the largest exports representing **53 per cent (11.3 Mt), 31 per cent (5.4 Mt)** of their respective total crushed rock sales. Exports of crushed rock from North Wales, a traditional crushed rock exporter (59 per cent of sales (3.3 Mt) in 2005) have reduced to 37 per cent (1.2 Mt). The main importing regions were **North West (4.8 Mt),** the **South East (4.3 Mt), London (4.1 Mt) and East of England (4.0 Mt),** mainly from the East Midlands.

Sand and gravel

5.4 In contrast, regional flows of sand and gravel were less than a third of crushed rock. Total exports of sand and gravel from Wales to England (0.13 Mt) almost matched Welsh imports from England (0.12 Mt). The leading exporters of sand and gravel were South East (1.6 Mt), the East of England (1.4 Mt) and the East Midlands (1.1 Mt), and the leading importing regions were London (1.5 Mt), East Midlands (1.2 Mt), South East (0.9 Mt) and Yorkshire & the Humber (0.8 Mt).

5.5 The **South East dominates marine-dredged sales at 5.0 Mt**, with London at 3.7 Mt the second largest, followed by South Wales 0.6 Mt.

5.6 In addition to inter-regional flows and material from conventional offshore dredging, **a significant amount of crushed rock (2.5 Mt)** was imported from outside England and Wales. The largest proportion (1.4 Mt) was landed in the South East.

Comparison with 2005

5.7 Net imports of primary aggregates into England from Wales decreased 58 per cent from **5.7 Mt** in **2005** to **2.4 Mt** in **2009**. Imports of crushed rock from outside England and Wales have decreased 11 per cent from **2.8 Mt to 2.5 Mt**. Sales of marine-dredged sand and gravel decreased 24 per cent from **14.4 Mt to 11.0 Mt**.

6. Consumption

6.1 Apparent consumption figures (Tables 2b and 5a-k, and Map 7, 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 11) 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 Aggregate Minerals surveys and Table E2 for the aggregate working party regions used from Aggregate Minerals 2001 onwards.

6.2 **Total recorded apparent consumption of primary aggregates was 119.1 Mt in England and Wales**, to which should be added just over **2.3 Mt** of unallocated sales to give **121.4 Mt**. Four regions, East Midlands, South West, South Wales and North Wales were net exporters of aggregates and the remaining seven regions were net importers, to varying degrees. The **East Midlands at 16.2 Mt** was the **largest consuming region,** with the South East (15.8 Mt), the South West (15.7 Mt) and East of England (13.0 Mt) all close behind. London, the North West and the South East are the regions **most heavily dependent upon imports**.

6.3 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.

Comparison with 2005

6.4 Compared with 2005 there has been a significant (31 per cent) decrease in consumption of primary aggregates from **176.5 Mt to about 121.4 Mt**, including unallocated sales of 2.3 Mt.

7. Mode of transport

7.1 Table 8 shows the principal mode of transport employed for the distribution of aggregate sales from quarries and wharves. Overall, **road** accounted for **88.5 per cent** of all aggregates moved, **rail transport 11.0 per cent** and shipment by **water 0.6 per cent.** The comparable proportions for 2005 were **89.8 per cent, 9.2 per cent and 1 per cent**, respectively.

7.2 For crushed rock the proportion of rail deliveries increased to **16.3 per cent (12 Mt)**. The use of rail transport in the East Midlands and the South West accounted for **6.6 Mt and 4.4 Mt** of all aggregate rail forwardings respectively, the main destinations being London the East of England and the South East. Rail was also used for transporting crushed rock in Yorkshire and the Humber, the South East (from wharves), the North East, and North and South Wales. The principal transfers of crushed rock by water (sea) were from North Wales to the East of England, South East and London and from the South West to the South East. About **0.1 Mt** of sand and gravel were moved by inland waterways in the East Midlands.

8. Reserves

8.1 Table 12 and Map 10 summarise reserves of primary aggregates with valid planning permissions at 31st December 2009 in active and inactive sites (i.e. 'permitted reserves'). Data for **inactive sites distinguishes between sites worked in the past, but still containing valid 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 excluded from the totals. Table D3 provides a comparison with all previous Aggregate Minerals surveys and Table E2 for the aggregate working party regions used from Aggregate Minerals 2001 onwards.

8.2 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 mineral planning authorities in the absence of returns (particularly in the case of inactive sites). Wherever possible estimates were based on earlier records (depleted for sales), or upon more general knowledge of the site.

8.3 **Total permitted reserves in active and inactive sites** for aggregate use at the end of 2009 were **4 547 Mt** of which crushed rock accounted for **88 per cent (3 982 Mt)** and sand and gravel the remaining **12 per cent (565 Mt)**. Sand and gravel reserves are much smaller in relation to average annual land-won sales (equivalent to about 15 years output in 2009) than crushed rock reserves, which are usually measured in terms of a few decades (56 years in 2009).

8.4 **Total permitted reserves in active sites** at the end of 2009 were **3 646 Mt**. In 2009 crushed rock accounted for **88 per cent** and sand and gravel the remaining **12 per cent** of reserves in active sites.

8.5 **Total permitted reserves in inactive sites were 902 Mt,** of which 819 Mt were in sites worked in the past and only 83 Mt in sites yet to be worked (greenfield sites). Reserves contained in inactive sites classified as 'Dormant' were **411 Mt**, of which **393 Mt** consisted of crushed rock and **19 Mt** sand and gravel.

Comparison with 2005

8.6 Total permitted reserves show a 7 per cent **decrease of 335 Mt** on 2005 when total reserves for aggregate use were **4 882 Mt**, comprising **4 260 Mt** of crushed rock and **622 Mt** of sand and gravel (excluding reserves for non-aggregate use and tonnages in dormant sites). Total permitted reserves in active sites show a 5.6 per cent decrease from **3 862 Mt** in **2005.**

Distribution

8.7 The distribution of reserves is very uneven reflecting broadly both geology and demand (Map 10). Of total reserves, **87 per cent were in England**. Some **30 per cent of all permitted reserves** were located in the **East Midlands** (compared with 22.6 per cent of total sales), and **20 per cent** in the **South West** (compared with 17.5 per cent of total sales). These two regions also accounted for a significant

proportion of total crushed rock reserves **(1 303 Mt or 33 per cent, and 868 Mt or 22 per cent** respectively). Excluding London, the regions with the smallest crushed rock reserves were East of England **(3 Mt)** and the South East **(59 Mt).** This reflects the extent of crushed rock resources in the respective regions.

8.8 **East of England** was the region with the highest level of sand and gravel reserves **(147 Mt)** equivalent to **26 per cent** of the sand and gravel total. Other English regions with significant sand and gravel reserves were the West Midlands **(104 Mt),** East Midlands **(81 Mt)**, and the South East **(79 Mt)**. Only **4 per cent** (21 Mt) of total sand and gravel reserves were in Wales.

9. Environmentally designated areas

9.1 As in the 1997, 2001 and 2005 surveys, systematic information on aggregates sales and reserves in statutorily designated areas were collected and are presented in Tables 7 and 13 respectively. In Aggregate Minerals 2009 data collection for Green Belts was re-introduced. Apart from National Parks and Areas of Outstanding Natural Beauty, data for **designated areas are not mutually exclusive**. For example, most Special Areas of Conservation and Special Protection Areas are also Sites of Special Scientific Interest and all may occur in National Parks and Areas of Outstanding Natural Beauty. Consequently 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.

9.2 Some designations, notably Sites of Special Scientific Interest, 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. The information, therefore, needs to be treated with caution.

Sales

9.3 **Total sales of crushed rock in England and Wales in sites within National Parks and Areas of Outstanding Natural Beauty were 7.3 Mt and 3.4 Mt respectively. Comparable figures for land-won sand and gravel were 0.2 Mt and 1.7 Mt**. Some **24.3 Mt total primary land-won aggregates** were produced from sites associated with **Sites of Special Scientific Interest.** Such sites accounted for 28.5 per cent of crushed rock aggregate sales and 11 per cent of total sand and gravel sales. In contrast sales from sites within Green Belts were 3.3 Mt of crushed rock and 6.9 Mt of sand and gravel.

9.4 At regional level, **37 per cent (2.7 Mt) of crushed rock quarried in National Parks was produced in the East Midlands,** i.e. in the Peak District National Park (mainly limestone). Elsewhere, National Parks in Yorkshire & the Humber accounted for a further **36 per cent (2.6 Mt)**. The largest sales of crushed rock aggregates from Areas of Outstanding Natural Beauty (1.8 Mt) came from the South West.

Reserves

9.5 **Total reserves of aggregates** in sites within **National Parks (384 Mt)** and **Areas of Outstanding Natural Beauty (319 Mt)** were **8.5 per cent** and **7.0 per cent** respectively of total permitted reserves. Of total reserves in National Parks and Areas of Outstanding Natural Beauty (704 Mt), crushed rock reserves accounted for some 94 per cent, 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 Areas of Outstanding Natural Beautys for non-aggregate use were 226 Mt in 2009.

9.6 **Total aggregate reserves** in sites in part associated with **Sites of Special Scientific Interest** were **1 090 Mt or 24 per cent** of the total for England and

Wales. They consist almost entirely (94.5 per cent) 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 permitted for extraction. These figures should, therefore, be treated with caution. **Total reserves in Green Belts were 310 Mt,** comprising **186 Mt** of crushed rock and **124 Mt** of sand and gravel.

10. Alternative Aggregates

10.1 The Aggregate Minerals 2009 survey was not confined to primary aggregates. It also collected data on those alternative aggregates which originate as a by-product of other quarrying operations. These principally included china clay waste and slate waste. **In total 2.2 Mt of such alternative aggregates were sold in 2009.**

11. Planning permissions and refusals

11.1 Information has been collected on the numbers of sites granted and refused planning permission to supply wholly, or in part, aggregate minerals, and the amounts of mineral that these contained. In addition, Aggregate Minerals 2009, for the first time, has collected information on the number of sites where a planning permission application has been withdrawn and not re-submitted or has 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 2006 to 2009.

11.2 'Permissions' issued under the terms of the Planning & Compensation Act 1991 and the Environment Act 1995 have not been included. Similarly 'permissions' given 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 also not included. This is because in these cases the permission did not provide additional reserves. Refusals of the above sites are also not included as the loss of the reserves, and also any reduction in reserves flowing from any modification of permission granted, are already incorporated in the reserve figure.

11.3 Tables 14 and 15 show the total number of **sites granted and refused planning permission by region between 2006 and 2009, inclusive**, and the amounts of mineral they contained. **Permissions, (231 or 90 per cent of those granted/refused) greatly exceeded refusals (25). Total reserves of crushed rock granted planning permission between 2006 to 2009 were 183 Mt, of which 148 Mt were in England and 35 Mt in Wales.** Total crushed rock reserves granted permission were slightly higher than in the period 2001 to 2005 (175 Mt). The largest increases in crushed rock reserves were in the East Midlands (52 Mt) and West Midlands (33 Mt). **Comparable figures for sand and gravel permissions were 165 Mt in England and only 0.5 Mt in Wales.** The largest additions were in East of England (44 Mt), East Midlands (36 Mt) and the South East (31 Mt).

11.4 Tables 16 and 17 show the number of sites currently awaiting a planning permission decision or which have been withdrawn from the application process and not subsequently re-submitted. **There are currently 74 sites where a planning permission decision is outstanding.** These sites comprise **278 Mt of total aggregate** split between 220 Mt crushed rock and 58 Mt sand and gravel. It is important to note that not all planning permission applications awaiting a decision may be granted. There are 16 sites whose planning permission application has been withdrawn and not subsequently re-submitted between 2006 and 2009. Of the total 22 Mt of aggregate in withdrawn applications those for sand and gravel comprise 13 Mt.

11.5 The quantity of sand and gravel and crushed rock granted or refused permission and that either awaiting a decision or which has been withdrawn by site type and designated area is shown in Tables C1 to C16 in Appendix C. No crushed rock aggregate minerals were granted planning permission for extraction in National Parks during 2006 to 2009. The quantity of mineral granted planning permission in Areas of Outstanding Natural Beauty for the same period was 2.6 Mt. The corresponding figures for sand and gravel were 0.25 Mt in National Parks and 3.5 Mt in Areas of Outstanding Natural Beauty. The quantity of mineral granted permission in relation to Sites of Special Scientific Interest was 3.0 Mt for crushed rock and 8.5 Mt for sand and gravel. The quantity of mineral granted permission in relation to Green Belts was 9.9 Mt for crushed rock and 39.8 Mt for sand and gravel.

Maps 1-10 listed as appearing on pages 29-39 are published as separate downloadable files

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.

‘c’ Indicates a confidential figure. Totals include concealed confidential figures wherever possible.

Figures in the tables may not total fully 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 granted and refused planning permission between 2006 and 2009 inclusive.
- Table 16 and 17 show total of tonnages awaiting planning permission and those withdrawn
- Table 18 shows the number of active land-based quarries and marine wharves that contributed to the survey.
- Tables A1 to A5 provide more detailed information on sales by product (end use) and mineral type.
- Tables B1 to B4 provide more comprehensive data on permitted reserves by mineral type and environmental designation.
- Tables C1 to C16 provide details of planning permissions, refusals, awaiting and withdrawn by site type and environmental designation.

- Tables D1 to D3 provide comparison of sales, consumption and reserves for 1973, 1977, 1985, 1989, 1993, 1997, 2001, 2005 and 2009.

- Tables E1 to E3 provide comparison of sales, consumption and reserves for 2001, 2005 and 2009

Sales, consumption and inter-regional flows

Table 1: Comparison of sales and consumption of primary aggregates in 2009

Thousand tonnes

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	20 844	15 710	133%	-	25%
South East	12 286	15 762	78%	22%	-
London	4 239	9 369	45%	55%	-
East of England	10 278	13 024	79%	24%	-
East Midlands	26 922	16 183	166%	-	40%
West Midlands	8 500	10 484	81%	19%	-
North West	8 174	12 266	67%	34%	-
Yorkshire & the	10 362	10 993	94%	6%	-
North East	4 649	5 481	85%	13%	-
England	**106 253**	**109 271**	**97%**		
South Wales	8 942	6 611	135%	-	28%
North Wales	3 866	3 238	119%	-	16%
Wales	**12 808**	**9 848**	**130%**		
England and Wales	**119 061**	**119 120**	**100%**		

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 121.4 million tonnes.

4. 96.8% of total sales is based on figures supplied by site operators. The remaining 3.2% is based on estimates made by Mineral Planning Authorities.

5. Consumption is calculated using sales by destination data. 92.7% of total sales by destination is based on figures supplied by site operators. The remaining 7.3% is based on estimates made by Mineral Planning Authorities.

Table 2a: Summary sales of primary aggregates in 2009

Thousand tonnes

Region	Land-won sand	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregate
South West	3 152	487	3 638	17 206	20 844
South East	6 007	4 985	10 992	1 294	12 286
London	577	3 662	4 239		4 239
East of England	9 666	322	9 989	289	10 278
East Midlands	5 501		5 501	21 421	26 922
West Midlands	5 860		5 860	2 639	8 500
North West	2 180	97	2 276	5 897	8 174
Yorkshire & the	2 929	192	3 122	7 240	10 362
North East	758	563	1 321	3 328	4 649
England	**36 631**	**10 308**	**46 938**	**59 314**	**106 253**
(%)	**98%**	**94%**	**97%**	**84%**	**89%**
South Wales	144	613	757	8 185	8 942
North Wales	589	32	621	3 245	3 866
Wales	**733**	**645**	**1 378**	**11 430**	**12 808**
(%)	**2%**	**6%**	**3%**	**16%**	**11%**
England and Wales	**37 363**	**10 953**	**48 317**	**70 744**	**119 061**

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 2009, 1.5 million tonnes of china clay waste (sand and rock) and 0.03 million tonnes of slate waste were also used for aggregate purposes. In Wales 0.5 million tonnes of slate waste was sold for aggregate use. In England and Wales, 0.17 million tonnes of by-product clay / shale was also sold for aggregate use.

4. 96.8% of total sales is based on figures supplied by site operators. The remaining 3.2% is based on estimates made by Mineral Planning Authorities.

Table 2b: Summary of consumption of primary aggregates in 2009

Thousand tonnes

Region	Land-won sand	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregate
South West	2 960	511	3 471	12 238	15 710
South East	5 679	4 700	10 380	5 383	15 762
London	1 459	3 824	5 283	4 086	9 369
East of England	8 412	336	8 748	4 276	13 024
East Midlands	5 569		5 569	10 613	16 183
West Midlands	5 427	17	5 444	5 040	10 484
North West	1 891	76	1 967	10 299	12 266
Yorkshire & the	2 980	234	3 214	7 779	10 993
North East	1 444	515	1 959	3 522	5 481
England	**35 821**	**10 214**	**45 035**	**63 236**	**109 271**
(%)	**98%**	**95%**	**97%**	**88%**	**92%**
South Wales	209	516	724	5 886	6 611
North Wales	491	53	544	2 694	3 238
Wales	**700**	**568**	**1 268**	**8 580**	**9 848**
(%)	**2%**	**5%**	**3%**	**12%**	**8%**
England and Wales	**36 521**	**10 782**	**47 303**	**71 816**	**119 120**

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 121.4 million tonnes.

3. Total unallocated sales = Sand and gravel 518 000 tonnes
Crushed rock 1 785 000 tonnes

4. Consumption is calculated using sales by destination data. 92.7% of total sales by destination is based on figures supplied by site operators. The remaining 7.3% is based on estimates made by Mineral Planning Authorities.

Table 3: Summary of exports and imports of primary aggregates (land-won and marine) in 2009

Thousand tonnes

	Exports		Imports	
Region	**Sand and gravel**	**Crushed rock**	**Sand and gravel**	**Crushed rock**
South West	597	5 391	430	371
South East	1 607	251	993	4 340
London	437		1 482	4 086
East of England	1 365	20	442	4 007
East Midlands	1 146	11 325	1 164	521
West Midlands	819	498	402	2 894
North West	473	421	288	4 822
Yorkshire & the Humber	755	1 451	847	1 977
North East	75	419	713	514
England	**7 275**	**19 775**	**6 761**	**23 533**
South Wales	24	2 704	65	172
North Wales	127	1 204	50	653
Wales	**151**	**3 908**	**116**	**825**
England and Wales	**7 426**	**23 684**	**6 877**	**24 358**

1. Sand and gravel includes 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 (64 464 tonnes).

4. Imports include aggregates imported from outside England and Wales (2.5 million tonnes), principally crushed rock.

Table 4a: Sales of aggregates and aggregate minerals by region in 2009: South West

Thousand tonnes

	Aggregate mineral	Aggregates	Non-aggregates	Total
Sand and gravel	Land won	3 152	23	3 174
	Marine dredged	487		487
	Total	**3 638**	**23**	**3 661**
Crushed rock	Limestone / dolomite	15 242	394	15 636
	Igneous rock	1 566	7	1 574
	Sandstone	397	3	400
	Chalk		c	c
	Ironstone			
	Total	**17 206**	**404**	**17 610**
	Total Aggregates	**20 844**	**427**	**21 271**
	Percent	*98%*	*2%*	*100%*

Sales of aggregates with 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	2 607	0	545	435	67	0	0	33	0	0	0	11			
	Marine dredged	435	2	50	33				16							
	Total	**3 041**	**2**	**595**	**468**	**67**	**0**	**0**	**49**	**0**	**0**	**0**	**11**			
Crushed rock	Limestone / dolomite	10 131	7	5156	2 487	1 877	378	1	251	0			162			
	Igneous rock	1 341		225												1
	Sandstone	395		2	2											
	Chalk															
	Ironstone															
	Total	**11 867**	**7**	**5384**	**2 702**	**1 883**	**378**	**c**	**251**	**0**			**162**			**1**
	Total Aggregates	**14 908**	**9**	**5979**	**3 169**	**1 950**	**378**	**c**	**300**	**0**	**0**	**0**	**173**			**1**

1. Limestone in the South West includes small amounts of chalk to maintain confidentiality.
2. In addition about 1.5 million tonnes of china clay waste (sand and rock) were sold as aggregate.

Table 4b: Sales of aggregates and aggregate minerals by region in 2009: South East

Thousand tonnes

	Aggregate mineral	Aggregates	Non-aggregates	Total
Sand and gravel	Land won	6 007	633	6 641
	Marine dredged	4 985	1	4 986
	Total	**10 992**	**635**	**11 627**
Crushed rock	Limestone/dolomite	1 086	27	1 113
	Igneous rock			
	Sandstone	25	13	38
	Chalk	23	51	75
	Ironstone	160	43	204
	Total	**1 294**	**135**	**1 429**
	Total Aggregates	**12 286**	**770**	**13 056**
	Percent	*94%*	*6%*	*100%*

Sales of aggregates within and outside home region

Thousand tonnes

	Aggregate mineral	Sales of aggregates within	Un-allocated sales	Sales of aggregates outside home region											
				Total sales	South West	London	East of England	East Midlands	West Midlands	North West	Yorkshire &	North East	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land won	4 969	24	1016	294	448	138	33	83	3	4		11	1	0	
	Marine dredged	4 417	64	504	76	425	1			0			1			
	Total	**9 386**	**88**	**1519**	**370**	**873**	**139**	**33**	**83**	**3**	**4**		**12**	**1**	**0**	
Crushed rock	Limestone / dolomite	944	97	45	32	1	2	4	4				1			
	Igneous rock															
	Sandstone	25														
	Chalk	23														
	Ironstone	50		110				20	90							
	Total	**1 043**	**97**	**154**	**32**	**1**	**2**	**24**	**94**				**1**			
	Total Aggregates	**10 429**	**185**	**1674**	**402**	**874**	**141**	**57**	**177**	**3**	**4**		**13**	**1**	**0**	

Table 4c: Sales of aggregates and aggregate minerals by region in 2009: London

Thousand tonnes

	Aggregate mineral	Aggregates	Non-aggregates	Total
Sand and gravel	Land won	577		577
	Marine dredged	3 662	0	3 662
	Total	**4 239**	**0**	**4 239**
Crushed rock	Limestone / dolomite			
	Igneous rock			
	Sandstone			
	Chalk			
	Ironstone			
	Total			
	Total Aggregates	**4 239**	**0**	**4 239**
	Percent	*100%*	*0%*	*100%*

Sales of aggregates within and outside home region

Thousand tonnes

	Aggregate mineral	Sales of aggregates within	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 &	North East	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land won	402		175		45	130									
	Marine dredged	3 399		263		250	13									
	Total	**3 802**		**437**		**294**	**143**									
Crushed rock	Limestone / dolomite															
	Igneous rock															
	Sandstone															
	Chalk															
	Ironstone															
	Total															
	Total Aggregates	**3 802**		**437**		**294**	**143**									

Table 4d: Sales of aggregates and aggregate minerals by region in 2009: East of England

Thousand tonnes

	Aggregate mineral	Aggregates	Non-aggregates	Total
Sand and gravel	Land won	9 666	501	10 167
	Marine dredged	322		322
	Total	**9 989**	**501**	**10 489**
Crushed rock	Limestone / dolomite	220	51	271
	Igneous rock			
	Sandstone	28	0	29
	Chalk	3	70	72
	Ironstone	38		38
	Total	**289**	**121**	**410**
	Total Aggregates	**10 278**	**622**	**10 899**
	Percent	*94%*	*6%*	*100%*

Sales of aggregates within and outside home region

Thousand tonnes

	Aggregate mineral	Sales of aggregates within	Un-allocated sales	Sales of aggregates outside home region											
				Total sales	South West	South East	London	East Midlands	West Midlands	North West	Yorkshire &	North East	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land won	7 984	40	1325	0	192	542	548	38	1	0	1	0	0		3
	Marine dredged	322														
	Total	**8 306**	**40**	**1326**	**0**	**192**	**542**	**548**	**38**	**1**	**0**	**1**	**0**	**0**		**3**
Crushed rock	Limestone / dolomite	201		20				20								
	Igneous rock															
	Sandstone	28		0				0								
	Chalk	3														
	Ironstone	38														
	Total	**269**		**20**				**20**								
	Total Aggregates	**8 576**	**40**	**1345**	**0**	**192**	**542**	**567**	**38**	**1**	**0**	**1**	**0**	**0**		**3**

Table 4e: Sales of aggregates and aggregate minerals by region in 2009: East Midlands

Thousand tonnes

	Aggregate mineral	Aggregates	Non-aggregates	Total
Sand and gravel	Land won	5 501	200	5 701
	Marine dredged			
	Total	**5 501**	**200**	**5 701**
Crushed rock	Limestone / dolomite	10 734	7 317	18 051
	Igneous rock	10 677		10 677
	Sandstone	10	73	83
	Chalk	c	c	c
	Ironstone			
	Total	**21 421**	**7 391**	**28 812**
	Total Aggregates	**26 922**	**7 591**	**34 513**
	Percent	*78%*	*22%*	*100%*

Sales of aggregates within and outside home region

Thousand tonnes

	Aggregate mineral	Sales of aggregates within	Un-allocated sales	Sales of aggregates outside home region											
				Total sales	South West	South East	London	East of England	West Midlands	North West	Yorkshire &	North East	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land won	4 405	132	1015	0	18		158	216	1	621	0	0	0	0	
	Marine dredged															
	Total	**4 405**	**132**	**1015**	**0**	**18**		**158**	**216**	**1**	**621**	**0**	**0**	**0**	**0**	
Crushed rock	Limestone / dolomite	5 231	309	5190	1	145	1	870	760	2 263	1 139	0	1	10	0	
	Igneous rock	4 851	241	5585	45	225	1 211	2 231	1 244	276	352	1				
	Sandstone	10														
	Chalk	c														
	Ironstone															
	Total	**10 092**	**550**	**10775**	**46**	**370**	**1 212**	**3 101**	**2 004**	**2 539**	**1 491**	**1**	**1**	**10**	**0**	
	Total Aggregates	**14 497**	**682**	**11790**	**46**	**388**	**1 212**	**3 259**	**2 220**	**2 540**	**2 112**	**1**	**2**	**10**	**0**	

1. Limestone in the East Midlands includes small amounts of chalk to maintain confidentiality.

Table 4f: Sales of aggregates and aggregate minerals by region in 2009: West Midlands

Thousand tonnes

	Aggregate mineral	Aggregates	Non-aggregates	Total
Sand and gravel	Land won	5 860	49	5 909
	Marine dredged			
	Total	**5 860**	**49**	**5 909**
Crushed rock	Limestone / dolomite	710	51	760
	Igneous rock	994	7	1 001
	Sandstone	935	317	1 252
	Chalk			
	Ironstone			
	Total	**2 639**	**374**	**3 013**
	Total Aggregates	**8 500**	**423**	**8 923**
	Percent	*95%*	*5%*	*100%*

Sales of aggregates within and outside home region

Thousand tonnes

	Aggregate mineral	Sales of aggregates within	Un-allocated sales	Sales of aggregates outside home region												
				Total sales	South West	South East	London	East of England	East Midlands	North West	Yorkshire &	North East	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land won	5 041	89	730	47	21		1	440	154	13	0	42	13		
	Marine dredged															
	Total	**5 041**	**89**	**730**	**47**	**21**		**1**	**440**	**154**	**13**	**0**	**42**	**13**		
Crushed rock	Limestone / dolomite	572	100	38		0		0	4	27	0		4	3		
	Igneous rock	845		153	1	1	0	24	127	0	0			0		
	Sandstone	729		206	0	7		16	89	57	7		2	29		0
	Chalk															
	Ironstone															
	Total	**2 146**	**100**	**397**	**1**	**7**	**0**	**40**	**219**	**84**	**7**		**6**	**33**		**0**
	Total Aggregates	**7 187**	**189**	**1128**	**48**	**28**	**0**	**41**	**659**	**238**	**20**	**0**	**48**	**45**		**0**

Table 4g: Sales of aggregates and aggregate minerals by region in 2009: North West

Thousand tonnes

	Aggregate mineral	Aggregates	Non-aggregates	Total
Sand and gravel	Land won	2 180	1 188	3 368
	Marine dredged	97		97
	Total	**2 276**	**1 188**	**3 465**
1Crushed rock	Limestone / dolomite	3 774	1 066	4 840
	Igneous rock	1 068		1 068
	Sandstone	1 055	333	1 388
	Chalk			
	Ironstone			
	Total	**5 897**	**1 399**	**7 296**
	Total Aggregates	**8 174**	**2 587**	**10 760**
	Percent	*76%*	*23%*	*100%*

Sales of aggregates within and outside home region

Thousand tonnes

	Aggregate mineral	Sales of aggregates within	Un-allocated sales	Sales of aggregates outside home region												
				Total sales	South West	South East	London	East of England	East Midlands	West Midlands	Yorkshire &	North East	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land won	1 602	141	**312**	0	0		1	20	15	142	97	0	16	18	3
	Marine dredged	76		**21**							0			20		
	Total	**1 679**	**141**	**331**	**0**	**0**		**1**	**20**	**15**	**142**	**97**	**0**	**36**	**18**	**3**
Crushed rock	Limestone / dolomite	3 564	40	**170**					0		109	44	0		17	
	Igneous rock	877	36	**155**		1		1	20	3	59	48	0	13	11	
	Sandstone	1 036		**19**							19	0				
	Chalk															
	Ironstone															
	Total	**5 477**	**76**	**344**		**1**		**1**	**20**	**3**	**186**	**93**	**0**	**13**	**28**	
	Total Aggregates	**7 155**	**217**	**677**	**0**	**1**		**2**	**40**	**18**	**329**	**189**	**0**	**49**	**46**	**3**

1. Limited information was received on sales of marine sand and gravel in the region. Crown Estate landings (not all sold) were 325 140 tonnes. This figure is not included in this, or any other table.

Table 4h: Sales of aggregates and aggregate minerals by region in 2009: Yorkshire and the Humber

Thousand tonnes

	Aggregate mineral	Aggregates	Non-aggregates	Total
Sand and gravel	Land won	2 929	c	c
	Marine dredged	192		192
	Total	**3 122**	**c**	**c**
Crushed rock	Limestone / dolomite	5 782	359	6 141
	Igneous rock			
	Sandstone	1 384	90	1 474
	Chalk	74	14	88
	Ironstone			
	Total	**7 240**	**463**	**7 703**
	Total Aggregates	**10 362**	**c**	**c**
	Percent	*c*	*c*	*100%*

Sales of aggregates within and outside home region

Thousand tonnes

	Aggregate mineral	Sales of aggregates within	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	2 174		**755**	12	0	0	0	123	1	3	615			0	
	Marine dredged	192														
	Total	**2 367**		**755**	**12**	**0**	**0**	**0**	**123**	**1**	**3**	**615**			**0**	
Crushed rock	Limestone / dolomite	4 755		**1027**		9		1	172	2	517	325		0	1	
	Igneous rock															
	Sandstone	972		**424**	11	11	0	71	14	13	275	25	2	2	2	
	Chalk	74														
	Ironstone															
	Total	**5 801**		**1452**	**11**	**19**	**0**	**71**	**186**	**15**	**792**	**350**	**2**	**2**	**3**	
	Total Aggregates	**8 168**		**2207**	**23**	**19**	**0**	**72**	**310**	**16**	**796**	**966**	**2**	**2**	**3**	

1. Marine dredged sand and gravel sales include a small quantity of land-won sand and gravel landed from Europe.

Table 4i: Sales of aggregates and aggregate minerals by region in 2009: North East

Thousand tonnes

	Aggregate mineral	Aggregates	Non-aggregates	Total
Sand and gravel	Land won	758	10	768
	Marine dredged	563		563
	Total	**1 321**	**10**	**1 331**
Crushed rock	Limestone / dolomite	2 238	682	2 919
	Igneous rock	1 090	2	1 092
	Sandstone			
	Chalk			
	Ironstone			
	Total	**3 328**	**683**	**4 011**
	Total Aggregates	**4 649**	**693**	**5 342**
	Percent	*87%*	*13%*	*100%*

Sales of aggregates within and outside home region

Thousand tonnes

	Aggregate mineral	Sales of aggregates within	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 &	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land won	731	1	26					0			25				
	Marine dredged	515	7	41								41				
	Total	**1 246**	**8**	**67**					**0**			**67**				
Crushed rock	Limestone / dolomite	2 055	224	57					0		3	53				0
	Igneous rock	952	6	132	0	1	4	3	11	1	16	94		0	0	0
	Sandstone															
	Chalk															
	Ironstone															
	Total	**3 008**	**230**	**189**	**0**	**1**	**4**	**3**	**12**	**1**	**19**	**148**		**0**	**0**	**0**
	Total Aggregates	**4 253**	**238**	**256**	**0**	**1**	**4**	**3**	**12**	**1**	**19**	**215**		**0**	**0**	**0**

Table 4j: Sales of aggregates and aggregate minerals by region in 2009: South Wales

Thousand tonnes

	Aggregate mineral	Aggregates	Non-aggregates	Total
Sand and gravel	Land won	144	33	177
	Marine dredged	613	5	618
	Total	**757**	**38**	**795**
Crushed rock	Limestone / dolomite	4 554	1 008	5 563
	Igneous rock	1 025	1	1 026
	Sandstone	2 605	20	2 625
	Chalk			
	Ironstone			
	Total	**8 185**	**1 029**	**9 214**
	Total Aggregates	**8 942**	**1 067**	**10 009**
	Percent	*89%*	*11%*	*100%*

Sales of aggregates within and outside home region

Thousand tonnes

	Aggregate mineral	Sales of aggregates within	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 &	North East	North Wales	Scotland	Europe
Sand and gravel	Land won	144													
	Marine dredged	515	17	7	0					0					7	
	Total	**659**	**17**	**7**	**0**					**0**					**7**	
Crushed rock	Limestone / dolomite	4 350	636	52	5	0	7			38				2	0	
	Igneous rock	315	16	694	12	13	0	7	1	101	162	0		398	0	
	Sandstone	1 049	48	1258	264	114	222	66	32	342	8	12	2	196		
	Chalk															
	Ironstone															
	Total	**5 715**	**700**	**2003**	**281**	**127**	**228**	**73**	**33**	**481**	**170**	**12**	**2**	**596**	**0**	
	Total Aggregates	**6 373**	**717**	**2011**	**282**	**127**	**228**	**73**	**33**	**481**	**170**	**12**	**2**	**596**	**7**	

Table 4k: Sales of aggregates and aggregate minerals by region in 2009: North Wales

Thousand tonnes

	Aggregate mineral	Aggregates	Non-aggregates	Total
Sand and gravel	Land won	589	20	609
	Marine dredged	32		32
	Total	**621**	**20**	**641**
Crushed rock	Limestone / dolomite	2 636	493	3 128
	Igneous rock	610	8	617
	Sandstone			
	Chalk			
	Ironstone			
	Total	**3 245**	**500**	**3 746**
	Total Aggregates	**3 866**	**520**	**4 386**
	Percent	*88%*	*12%*	*100%*

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	461		128					0	1	126	0		0		
	Marine dredged	32														
	Total	**494**		**126**					**0**	**1**	**126**	**0**		**0**		
Crushed rock	Limestone / dolomite	1 494	26	1116		46	32	67		45	925			0		
	Igneous rock	546		64				12	0		51			0		
	Sandstone															
	Chalk															
	Ironstone															
	Total	2 041	26	1178		46	32	79		45	976			1		
	Total Aggregates	**2 535**	**26**	**1305**		**46**	**32**	**79**		**46**	**1 102**			**1**		

1. In addition, 0.48 million tonnes of slate were used for aggregate.

Table 5a: Consumption of primary aggregates by region in 2009: South West

Thousand tonnes

	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land won	353	2 607	2 960
	Marine dredged	76	435	511
	Total	**430**	**3 041**	**3 471**
Crushed rock	Limestone / dolomite	38	10 131	10 169
	Igneous rock	59	1 341	1 399
	Sandstone	275	395	670
	Chalk			
	Ironstone			
	Total	**371**	**11 867**	**12 238**
	Total Aggregates	**801**	**14 908**	**15 710**
	Percent	*5%*	*95%*	*100%*

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	353	294		0	0	47	0	12				
	Marine dredged	76	76								0		
	Total	**430**	**370**		**0**	**0**	**47**	**0**	**12**		**0**		
Crushed rock	Limestone / dolomite	38	32			1					5		
	Igneous rock	59				45	1			0	12		1
	Sandstone	275					0		11		264		
	Chalk												
	Ironstone												
	Total	**371**	**32**			**46**	**1**		**11**	**0**	**281**		**1**
	Total Aggregates	**801**	**402**		**0**	**46**	**48**	**0**	**23**	**0**	**282**		**1**

Table 5b: Consumption of primary aggregates by region in 2009: South East

Thousand tonnes

	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land won	710	4 969	5 679
	Marine dredged	283	4 417	4 700
	Total	**993**	**9 386**	**10 380**
Crushed rock	Limestone / dolomite	2 832	944	3 776
	Igneous rock	1 319		1 319
	Sandstone	189	25	214
	Chalk		23	23
	Ironstone		50	50
	Total	**4 340**	**1 043**	**5 383**
	Total Aggregates	**5 333**	**10 429**	**15 762**
	Percent	*34%*	*66%*	*100%*

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	710	435	45	192	18	21	0	0				
	Marine dredged	283	33	250									
	Total	**993**	**468**	**294**	**192**	**18**	**21**	**0**	**0**				
Crushed rock	Limestone / dolomite	2 832	2 487			145	0		9		0	46	145
	Igneous rock	1 319				225	1	1		1	13		866
	Sandstone	189					7		11		114		56
	Chalk												
	Ironstone												
	Total	**4 340**	**2 702**			**370**	**7**	**1**	**19**	**1**	**127**	**46**	**1 067**
	Total Aggregates	**5 333**	**3 169**	**294**	**192**	**388**	**28**	**1**	**19**	**1**	**127**	**46**	**1 067**

Table 5c: Consumption of primary aggregates by region in 2009: London

Thousand tonnes

	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land won	1 057	402	1 459
	Marine dredged	425	3 399	3 824
	Total	**1 482**	**3 802**	**5 283**
Crushed rock	Limestone / dolomite	2 041		2 041
	Igneous rock	1 822		1 822
	Sandstone	222		222
	Chalk			
	Ironstone			
	Total	**4 086**		**4 086**
	Total Aggregates	**5 567**	**3 802**	**9 369**
	Percent	*59%*	*41%*	*100%*

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	1 057	67	448	542				0				
	Marine dredged	425		425									
	Total	**1 482**	**67**	**873**	**542**				**0**				
Crushed rock	Limestone / dolomite	2 041	1 877	1		1					7	32	123
	Igneous rock	1 822				1 211	0			4	0		601
	Sandstone	222							0		222		
	Chalk												
	Ironstone												
	Total	**4 086**	**1 883**	**1**		**1 212**	**0**		**0**	**4**	**228**	**32**	**725**
	Total Aggregates	**5 567**	**1 950**	**874**	**542**	**1 212**	**0**		**0**	**4**	**228**	**32**	**725**

Table 5d: Consumption of primary aggregates by region in 2009: East of England

Thousand tonnes

	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land won	427	7 984	8 412
	Marine dredged	14	322	336
	Total	**442**	**8 306**	**8 748**
Crushed rock	Limestone / dolomite	1 357	201	1 558
	Igneous rock	2 497		2 497
	Sandstone	153	28	181
	Chalk		3	3
	Ironstone		38	38
	Total	**4 007**	**269**	**4 276**
	Total Aggregates	**4 448**	**8 576**	**13 024**
	Percent	*34%*	*66%*	*100%*

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	427	0	138	130	158	1	1	0				
	Marine dredged	14		1	13								
	Total	**442**	**0**	**139**	**143**	**158**	**1**	**1**	**0**				
Crushed rock	Limestone / dolomite	1 357	378	2		870	0		1			67	39
	Igneous rock	2 497				2 231	24	1		3	7	12	219
	Sandstone	153					16		71		66		
	Chalk												
	Ironstone												
	Total	**4 007**	**378**	**2**		**3 101**	**40**	**1**	**71**	**3**	**73**	**79**	**258**
	Total Aggregates	**4 448**	**378**	**141**	**143**	**3 259**	**41**	**2**	**72**	**3**	**73**	**79**	**258**

Table 5e: Consumption of primary aggregates by region in 2009: East Midlands

Thousand tonnes

	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land won	1 164	4 405	5 569
	Marine dredged			
	Total	**1 164**	**4 405**	**5 569**
Crushed rock	Limestone / dolomite	201	5 231	5 432
	Igneous rock	165	4 851	5 016
	Sandstone	136	10	146
	Chalk		c	c
	Ironstone	20		20
	Total	**521**	**10 092**	**10 613**
	Total Aggregates	**1 686**	**14 497**	**16 183**
	Percent	*10%*	*90%*	*100%*

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	1 164	0	33		548	440	20	123	0		0	
	Marine dredged												
	Total	**1 164**	**0**	**33**		**548**	**440**	**20**	**123**	**0**		**0**	
Crushed rock	Limestone / dolomite	201	1	4		20	4	0	172	0			
	Igneous rock	165					127	20		11	1		
	Sandstone	136				0	89		14		32		
	Chalk												
	Ironstone	20		20									
	Total	**521**	**7**	**24**		**20**	**219**	**20**	**186**	**12**	**33**		
	Total Aggregates	**1 686**	**7**	**57**		**567**	**659**	**40**	**310**	**12**	**33**	**0**	

1. Limestone in the East Midlands includes small amounts of chalk to maintain confidentiality.

Table 5f: Consumption of primary aggregates by region in 2009: West Midlands

Thousand tonnes

	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land won	386	5 041	5 427
	Marine dredged	17		17
	Total	**402**	**5 041**	**5 444**
Crushed rock	Limestone / dolomite	1 100	572	1 672
	Igneous rock	1 350	845	2 195
	Sandstone	355	729	1 084
	Chalk			
	Ironstone	90		90
	Total	**2 894**	**2 146**	**5 040**
	Total Aggregates	**3 297**	**7 187**	**10 484**
	Percent	*31%*	*69%*	*100%*

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	386	33	83		38	216	15	1			1	
	Marine dredged	17	16								0		
	Total	**402**	**49**	**83**		**38**	**216**	**15**	**1**		**0**	**1**	
Crushed rock	Limestone / dolomite	1 100	251	4			760		2		38	45	
	Igneous rock	1 350					1 244	3		1	101	0	
	Sandstone	355							13		342		
	Chalk												
	Ironstone	90		90									
	Total	**2 894**	**251**	**94**			**2 004**	**3**	**15**	**1**	**481**	**45**	
	Total Aggregates	**3 297**	**300**	**177**		**38**	**2 220**	**18**	**16**	**1**	**481**	**46**	

Table 5g: Consumption of primary aggregates by region in 2009: North West

Thousand tonnes

	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land won	288	1 602	1 891
	Marine dredged	0	76	76
	Total	**288**	**1 679**	**1 967**
Crushed rock	Limestone / dolomite	3 735	3 564	7 299
	Igneous rock	747	877	1 624
	Sandstone	340	1 036	1 376
	Chalk			
	Ironstone			
	Total	**4 822**	**5 477**	**10 299**
	Total Aggregates	**5 111**	**7 155**	**12 266**
	Percent	*42%*	*58%*	*100%*

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	288	0	3		1	1	154	3			126	
	Marine dredged	0		0									
	Total	**288**	**0**	**3**		**1**	**1**	**154**	**3**			**126**	
Crushed rock	Limestone / dolomite	3 735	0				2 263	27	517	3		925	
	Igneous rock	747					276	0		16	162	51	241
	Sandstone	340						57	275		8		
	Chalk	0											
	Ironstone	0											
	Total	**4 822**	**0**				**2 539**	**84**	**792**	**19**	**170**	**976**	**241**
	Total Aggregates	**5 111**	**0**	**3**		**0**	**2 540**	**238**	**796**	**19**	**170**	**1 102**	**241**

Table 5h: Consumption of primary aggregates by region in 2009: Yorkshire and the Humber

Thousand tonnes

	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land won	806	2 174	2 980
	Marine dredged	41	192	234
	Total	**847**	**2 367**	**3 214**
Crushed rock	Limestone / dolomite	1 301	4 755	6 057
	Igneous rock	638		638
	Sandstone	38	972	1 009
	Chalk		74	74
	Ironstone			
	Total	**1 977**	**5 801**	**7 779**
	Total Aggregates	**2 825**	**8 168**	**10 993**
	Percent	*26%*	*74%*	*100%*

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	806	0	4		0	621	13	142	25		0	
	Marine dredged	41							0	41			
	Total	**847**	**0**	**4**		**0**	**621**	**13**	**142**	**67**		**0**	
Crushed rock	Limestone / dolomite	1 301					1 139	0	109	53			
	Igneous rock	638					352	0	59	94	0		133
	Sandstone	38						7	19		12		
	Chalk												
	Ironstone												
	Total	**1 977**					**1 491**	**7**	**186**	**148**	**12**		**133**
	Total Aggregates	**2 825**	**0**	**4**		**0**	**2 112**	**20**	**329**	**215**	**12**	**0**	**133**

Table 5i: Consumption of primary aggregates by region in 2009: North East

Thousand tonnes

	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land won	713	731	1 444
	Marine dredged		515	515
	Total	**713**	**1 246**	**1 959**
Crushed rock	Limestone / dolomite	370	2 055	2 425
	Igneous rock	118	952	1 070
	Sandstone	27		27
	Chalk			
	Ironstone			
	Total	**514**	**3 008**	**3 522**
	Total Aggregates	**1 228**	**4 253**	**5 481**
	Percent	*22%*	*78%*	*100%*

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	713	0			1	0	0	97	615			
	Marine dredged												
	Total	**713**	**0**			**1**	**0**	**0**	**97**	**615**			
Crushed rock	Limestone / dolomite	370					0		44	325			
	Igneous rock	118					1		48				68
	Sandstone	27							0	25	2		
	Chalk												
	Ironstone												
	Total	**514**					**1**		**93**	**350**	**2**		**68**
	Total Aggregates	**1 228**	**0**			**1**	**1**	**0**	**189**	**966**	**2**		**68**

Table 5j: Consumption of primary aggregates by region in 2009: South Wales

Thousand tonnes

	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land won	64	144	209
	Marine dredged	1	515	516
	Total	**65**	**659**	**724**
Crushed rock	Limestone / dolomite	168	4 350	4 519
	Igneous rock	0	315	316
	Sandstone	3	1 049	1 052
	Chalk			
	Ironstone			
	Total	**172**	**5 715**	**5 886**
	Total Aggregates	**237**	**6 373**	**6 611**
	Percent	*4%*	*96%*	*100%*

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	64	11	11		0	0	42	0			0	
	Marine dredged	1		1									
	Total	**65**	**11**	**12**		**0**	**0**	**42**	**0**			**0**	
Crushed rock	Limestone / dolomite	168	162	1			1	4	0			0	
	Igneous rock	0							0			0	
	Sandstone	3						2		2			
	Chalk												
	Ironstone												
	Total	**172**	**162**	**1**			**1**	**6**	**0**	**2**		**1**	
	Total Aggregates	**237**	**173**	**13**		**0**	**2**	**48**	**0**	**2**		**1**	

Table 5k: Consumption of primary aggregates by region in 2009: North Wales

Thousand tonnes

	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land won	30	461	491
	Marine dredged	20	32	53
	Total	**50**	**494**	**544**
Crushed rock	Limestone / dolomite	15	1 494	1 509
	Igneous rock	411	546	958
	Sandstone	227		227
	Chalk			
	Ironstone			
	Total	**653**	**2 041**	**2 694**
	Total Aggregates	**703**	**2 535**	**3 238**
	Percent	*22%*	*78%*	*100%*

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	30		1		0	0	13	16				
	Marine dredged	20							20				
	Total	**50**		**1**		**0**	**0**	**13**	**36**				
Crushed rock	Limestone / dolomite	15					10	3		0		2	
	Igneous rock	411						0	13		0	398	
	Sandstone	227						29		2		196	
	Chalk												
	Ironstone												
	Total	**653**					**10**	**33**	**13**	**2**	**0**	**596**	
	Total Aggregates	**703**		**1**		**0**	**10**	**45**	**49**	**2**	**0**	**596**	

Table 6: Summary of sales of primary aggregates (sand and gravel, and crushed rock) by major end use in 2009

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	6 932	6 899	3 915	5 559	8 584	3 816	2 209	3 977	1 403	**43 293**	2 024	1 151	**3 174**	**46 467**
Building/asphalting sand	654	1 425	165	1 098	663	586	488	457	271	**5 807**	188	72	**261**	**6 068**
Roadstone/gravel, coated for asphalt	3 328	13		175	3 185	1 450	1 053	1 097	574	**10 875**	2 520	570	**3 090**	**13 965**
Roadstone, uncoated	3 395	618			4 464	482	958	1 676	638	**12 231**	1 119	340	**1 458**	**13 690**
Other screened and graded	2 563	1 153	92	855	4 481	915	930	1 356	1 096	**13 441**	998	690	**1 688**	**15 128**
Railway ballast	35				1 651	1			7	**1 695**	30	21	**51**	**1 746**
Armourstone and gabion stone	37	7			37	7	29	40	36	**194**	66	39	**105**	**299**
Other construction uses, including	3 601	1 991	67	2 300	3 748	754	978	1 758	618	**15 813**	1 308	752	**2 060**	**17 873**
Undifferentiated aggregate use	298	180		292	110	489	1 528		6	**2 905**	690	231	**921**	**3 826**
Total Sales	**20 844**	**12 286**	**4 239**	**10 278**	**26 922**	**8 500**	**8 174**	**10 362**	**4 649**	**106 253**	**8 942**	**3 866**	**12 808**	**119 061**

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 2009

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	3 152	6 007	577	9 666	5 501	5 860	2 180	2 929	758	**36 631**	144	589	**733**	**37 363**
National Park		113								**113**	66		**66**	**179**
AONB	461	670		208		344				**1 682**				**1 682**
SSSI	1 154	1 361		230	223	119	180	758	105	**4 128**	7		**7**	**4 135**
SPA and SAC	1 131	776		117			180			**2 204**	7		**7**	**2 211**
Green Belt	131	2 125	577	1 327		1 768	738	81	148	**6 895**				**6 895**
Crushed rock														
All sites	17 206	1 294		289	21 421	2 639	5 897	7 240	3 328	**59 314**	8 185	3 245	**11 430**	**70 744**
National Park	c				2 746		677	2 632	c	**6 750**	594		**594**	**7 344**
AONB	1 841	6				194	349	510	487	**3 425**				**3 425**
SSSI	2 661	88		3	12 470	681		2 735	402	**19 038**		1 151	**1 151**	**20 189**
SPA and SAC	653				575			1 450	157	**2 835**				**2 835**
Green Belt	1 827	186					399	749		**3 310**				**3 310**

1. From land-based aggregate quarries only.

2. ‘All sites’ includes sales from all land-based mineral workings producing primary aggregates in 2009.

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

4. Designations are not mutually exclusive, e.g. Sites of Special Scientific Interest may overlap with others, such as National Parks and Areas of Outstanding Natural Beauty. Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are also Sites of Special Scientific Interest. They are sub-sets of Sites of Special Scientific Interest. Some designations, notably Sites of Special Scientific Interest, 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.

6. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table 8: Sales of primary aggregates by principal transport method in 2009

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	3 572	12 828	16 400	66	4 373	4 439		57	57	**20 896**
South East	10 626	2 329	12 954	368	277	644		110	110	**13 708**
London	3 588	359	3 947	514		514	138		138	**4 598**
East of England	9 227	559	9 786	265		265	180		180	**10 231**
East Midlands	5 459	14 843	20 302		6 574	6 574	93		93	**26 969**
West Midlands	5 860	2 643	8 504							**8 504**
North West	2 151	6 077	8 228		c	c				**c**
Yorkshire & the Humber	3 122	6 791	9 912		c	c				**c**
North East	1 321	3 495	4 816							**4 816**
England	**44 926**	**49 923**	**94 849**	**1 213**	**11 880**	**13 093**	**410**	**167**	**577**	**108 519**
South Wales	676	8 350	9 026		68	68	7		7	**9 101**
North Wales	621	3 061	3 682		38	38		146	146	**3 866**
Wales	**1 297**	**11 411**	**12 708**		**107**	**107**	**7**	**146**	**152**	**12 967**
England and Wales	**46 222**	**61 335**	**107 557**	**1 213**	**11 987**	**13 199**	**417**	**313**	**730**	**121 486**

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, there will by small differences in some regions with product sales.

4. 92.7% of total sales by principal transport method is based on figures supplied by site operators. The remaining 7.3% is based on estimates made by Mineral Planning Authorities.

Table 9a: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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	Bristol City Council	Avon				224	67%				
		South West				77	23%				
		Elsewhere				32	10%				
		Unallocated				2	1%				
	MPA Total					***337***		***69%***			
	Cornwall County Council[a,b]	Cornwall	c	100%					682	68%	
		South West							319	32%	
		Elsewhere							c	c	
	MPA Total		***c***		***c***				***1 002***		***6%***
	Dartmoor National Park[c]	Devon							c	99%	
		South West							c	0%	
		Elsewhere							c	0%	
	MPA Total								***c***		***c***
	Devon County Council[a,c]	Devon	441	88%		40	100%		1314	86%	
		South West	49	10%		0	0%		173	12%	
		Elsewhere	9	2%					2	0%	
	MPA Total		***500***		***16%***	***41***		***8%***	***1 490***		***9%***
	Dorset County Council	Dorset	606	48%		34	44%		261	96%	
		South West	488	38%		26	34%		8	3%	
		Elsewhere	178	14%		17	22%		3	1%	
	MPA Total		***1 273***		***40%***	***78***		***16%***	***272***		***2%***

a. Devon also includes land-won sand and gravel for Cornwall.

b. Cornwall South West crushed rock includes a small amount of Elsewhere.

c. Devon also includes crushed rock for Dartmoor National Park.

Table 9a: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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 continued	Gloucestershire County Council	Gloucestershire	173	19%					609	52%	
		South West	479	52%					135	12%	
		Elsewhere	278	30%					419	36%	
		Unallocated	0	0%					4	0%	
	MPA Total		***930***		***30%***				***1 167***		***7%***
	North Somerset Council	Avon							1 159	71%	
		South West							381	23%	
		Elsewhere							85	5%	
		Unallocated							1	0%	
	MPA Total								***1 625***		***9%***
	Plymouth City Council	Devon							179	76%	
		South West							14	6%	
		Elsewhere							44	19%	
	MPA Total								***237***		***1%***
	Somerset County Council	Somerset	0	100%		30	93%		3 963	41%	
		South West				2	7%		1 145	12%	
		South East							2 357	24%	
		London							1 871	19%	
		East of England							375	4%	
		Elsewhere							0	0%	
	MPA Total		***0***		***0%***	***32***		***7%***	***9 711***		***56%***

Table 9a: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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 continued	South Gloucestershire Council	Avon							611	35%	
		South West							935	53%	
		Elsewhere							205	12%	
		Unallocated							2	0%	
	MPA Total								***1 753***		***10%***
	Wiltshire County Council	Wiltshire	266	59%							
		South West	104	23%							
		Elsewhere	80	18%							
	MPA Total		***450***		***14%***						
AWP Total			**3 152**		**100%**	**487**		**100%**	**17 258**		**100%**

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 because small amounts for non-aggregate use have been included for a few mineral planning authorities.

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 mineral planning authority, 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 mineral planning authorities where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9b: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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	509	61%							
		South East	234	28%							
		Elsewhere	92	11%							
		Unallocated	5	1%							
	MPA Total		***840***		***14%***						
	Buckinghamshire County Council	Buckinghamshire and Milton Keynes	420	59%							
		South East	177	25%							
		Elsewhere	108	15%							
		Unallocated	8	1%							
	MPA Total		***713***		***12%***						
	East Sussex C. Council	East Sussex and Brighton & Hove				110	96%				
		South East				4	100%				
	MPA Total					***114***		***2%***			
	Hampshire County Council	Hampshire and the Isle of Wight	621	59%		910	84%		c	100%	
		South East	223	21%		93	9%				
		Elsewhere	208	20%		75	7%				
		Unallocated	4	0%		4	0%				
	MPA Total		***1 055***		***18%***	***1 081***		***22%***	***c***		***c***
	Isle of Wight Council	Hampshire and the Isle of Wight	63	100%		76	100%		c	100%	
	MPA Total		***63***		***1%***	***76***		***2%***	***c***		***c***
	Kent County Council	Kent and Medway	1 103	81%		1 442	86%		760	86%	
		South East	75	6%		55	3%		26	3%	
		Elsewhere	177	13%		171	10%				
		Unallocated	8	1%					97	11%	
	MPA Total		***1 362***		***23%***	***1 668***		***33%***	***883***		***68%***

.

Table 9b: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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				914	63%				
		South East				234	16%				
		Elsewhere				251	17%				
		Unallocated				60	4%				
	MPA Total					***1 459***		***29%***			
	Milton Keynes Council	Buckinghamshire and Milton Keynes	101	47%							
		South East	5	2%							
		Elsewhere	106	50%							
	MPA Total		***212***		***4%***						
	Oxfordshire County Council	Oxfordshire	487	78%					184	51%	
		South East	48	8%					25	7%	
		Elsewhere	92	15%					154	42%	
	MPA Total		***628***		***10%***				***363***		***28%***
	Surrey County Council	Surrey	468	55%							
		South East	168	20%							
		Elsewhere	212	25%							
	MPA Total		***848***		***14%***						
	West Sussex County Council	West Sussex	223	78%		184	31%		c	77%	
		South East	45	15%		396	67%		c	23%	
		Elsewhere	19	7%		7	1%				
		Unallocated	0	0%							
	MPA Total		***288***		***5%***	***587***		***12%***	***c***		***c***
AWP Total			**6 009**		**100%**	**4 985**		**100%**	**1 294**		**100%**

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 because small amounts for non-aggregate use have been included for a few mineral planning authorities.

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 mineral planning authority, 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 mineral planning authorities where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9c: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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	402	70%		3 400	93%				
		Elsewhere	175	30%		263	7%				
	MPA Total		***577***		***100%***	***3 662***		***100%***			
AWP Total			**577**		**100%**	**3 662**		**100%**			

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 because small amounts for non-aggregate use have been included for a few mineral planning authorities.

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 mineral planning authority, 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 mineral planning authorities 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 mineral planning authority and principal destination sub-region in 2009: 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	c	95%							
		East of England	c	2%							
		Elsewhere	c	2%							
	MPA Total		***c***		***c***						
	Cambridgeshire County Council[b]	Cambridgeshire and Peterborough	1 219	57%							
		East of England	399	18%					13	100%	
		Elsewhere	486	23%							
		Unallocated	40	2%							
	MPA Total		***2 144***		***23%***				***13***		***4%***
	Central Bedfordshire Council[a]	Bedfordshire	979	77%							
		East of England	141	11%							
		Elsewhere	150	12%							
	MPA Total		***1 269***		***14%***						
	Essex County Council[c]	Essex, Southend and Thurrock	2 154	78%							
		East of England	208	8%							
		Elsewhere	384	14%							
	MPA Total		***2 746***		***29%***						
	Hertfordshire C. Council	Hertfordshire	890	74%							
		East of England	39	3%							
		Elsewhere	278	23%							
	MPA Total		***1 207***		***13%***						

a. Central Bedfordshire also includes land-won sand and gravel for Bedford Borough.
b. Cambridgeshire also includes land-won sand and gravel for Peterborough.
c. Essex also includes land-won sand and gravel for Thurrock.

Table 9d: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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	Norfolk County Council	Norfolk	1 143	86%		0	100%		61	89%	
		East of England	154	12%					8	11%	
		Elsewhere	27	2%					0	0%	
	MPA Total		***1 324***		***14%***	***0***		***0%***	***69***		***24%***
	Peterborough[(b)]	Cambridgeshire and Peterborough	c	39%					188	91%	
		East of England	c	1%							
		Elsewhere	c	60%					20	9%	
	MPA Total		***c***		***c***				***207***		***72%***
	Suffolk County Council	Suffolk	496	75%		54	100%				
		East of England	163	25%							
	MPA Total		***659***		***7%***	***54***		***17%***			
	Thurrock Borough Council[(c)]	Essex, Southend and Thurrock	c	100%		268	100%				
	MPA Total		***c***		***c***	***268***		***83%***			
AWP Total			**9 349**		**100%**	**322**		**100%**	**289**		**100%**

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 because small amounts for non-aggregate use have been included for a few mineral planning authorities.

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 mineral planning authority, 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 mineral planning authorities where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9e: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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	435	48%					2 404	33%	
		East Midlands	420	46%					1 035	14%	
		East of England							538	7%	
		West Midlands							391	5%	
		North West							1 691	23%	
		Yorkshire & the Humber							873	12%	
		Elsewhere	52	6%					149	2%	
		Unallocated	8	1%					284	4%	
	MPA Total		***914***		***16%***				***7 364***		***34%***
	Leicestershire County Council	Leicestershire & Rutland	303	36%					3 828	33%	
		East Midlands	262	31%					1 739	15%	
		South East							225	2%	
		London							1 211	10%	
		East of England							2 244	19%	
		West Midlands							1 469	13%	
		North West							276	2%	
		Yorkshire & the Humber							352	3%	
		Elsewhere	182	22%					46	0%	
		Unallocated	88	11%					266	2%	
	MPA Total		***835***		***15%***				***11 656***		***54%***
	Lincolnshire County Council	Lincolnshire	1 516	76%					323	85%	
		East Midlands	187	9%					45	12%	
		Elsewhere	247	12%					14	4%	
		Unallocated	36	2%							
	MPA Total		***1 986***		***36%***				***382***		***2%***

Table 9e: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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	16	9%					71	46%	
		East Midlands	101	59%					10	6%	
		Elsewhere	54	32%					75	48%	
	MPA Total		***171***		***3%***				***156***		***1%***
	Nottinghamshire County Council	Nottinghamshire	758	46%					1	100%	
		East Midlands	407	25%							
		Elsewhere	480	29%							
	MPA Total		***1 646***		***30%***				***1***		***0%***
	Peak District National Park	Derbyshire & Peak District National Park							445	26%	
		East Midlands							132	8%	
		East of England							189	11%	
		West Midlands							135	8%	
		North West							572	33%	
		Yorkshire & the Humber							266	15%	
		Elsewhere							6	0%	
	MPA Total								***1 745***		***8%***
	Rutland CC DC	Leicestershire & Rutland							27	23%	
		East Midlands							33	29%	
		Elsewhere							54	48%	
	MPA Total								***113***		***1%***
AWP Total			**5 552**		**100%**				**21 417**		**100%**

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 because small amounts for non-aggregate use have been included for a few mineral planning authorities.

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 mineral planning authority, 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 mineral planning authorities 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 mineral planning authority and principal destination sub-region in 2009: 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	111	91%					c	7%	
		West Midlands	5	4%					c	45%	
		Elsewhere	6	5%							
		Unallocated							c	49%	
	MPA Total		***122***		***2%***				***c***		***c***
	Shropshire County Council	Shropshire	450	67%					933	54%	
		West Midlands	135	20%					468	27%	
		Elsewhere	86	13%					326	19%	
	MPA Total		***670***		***11%***				***1 727***		***65%***
	Solihull Metropolitan Borough Council[(a)]	Remainder of West Midlands	91	24%							
		West Midlands	280	75%							
		Elsewhere	3	1%							
	MPA Total		***375***		***6%***						
	Staffordshire County Council	Staffordshire	1 851	50%					c	85%	
		West Midlands	1 303	35%					c	7%	
		Elsewhere	520	14%					c	8%	
		Unallocated	51	1%							
	MPA Total		***3 725***		***64%***				***c***		***c***

a. Solihull also includes land-won sand and gravel for Walsall.

Table 9f: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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	Walsall Metropolitan Borough Council[(a)]	Remainder of West Midlands	c	13%							
		West Midlands	c	75%							
		Elsewhere	c	13%							
	MPA Total		***c***		***c***						
	Warwickshire County Council	Warwickshire	134	18%					218	71%	
		West Midlands	509	68%					52	17%	
		Elsewhere	69	9%					39	13%	
		Unallocated	39	5%							
	MPA Total		***751***		***13%***				***309***		***12%***
	Worcestershire County Council	Worcestershire	114	52%							
		West Midlands	59	27%							
		Elsewhere	45	21%							
		Unallocated									
	MPA Total		***218***		***4%***						
AWP Total			**5 860**		**100%**				**2 643**		**100%**

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 because small amounts for non-aggregate use have been included for a few mineral planning authorities.

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 mineral planning authority, 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 mineral planning authorities where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9g: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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	Bolton Metropolitan Borough Council	Greater Manchester, Merseyside, Halton & Warrington							c	98%	
		North West							c	2%	
	MPA Total								***c***		***c***
	Bury Metropolitan Borough Council	Greater Manchester, Merseyside, Halton & Warrington	c	54%					c	100%	
		North West	c	37%							
		Elsewhere	c	9%							
	MPA Total		***c***		***c***				***c***		***c***
	Cheshire East Council	Cheshire (Cheshire West & Chester and Cheshire East)	77	23%							
		North West	136	42%					c	100%	
		Elsewhere	112	34%							
		Unallocated	2	1%							
	MPA Total		***327***		***16%***				***c***		***c***
	Cheshire West & Chester Council	Cheshire (Cheshire West & Chester and Cheshire East)	182	33%					0	100%	
		North West	273	50%							
		Elsewhere	92	17%							
	MPA Total		***546***		***27%***				***0***		***0%***
	Cumbria County Council	Cumbria	231	44%					1 816	59%	
		North West	79	15%					840	27%	
		Elsewhere	75	14%					343	11%	
		Unallocated	138	26%					76	2%	
	MPA Total		***524***		***26%***				***3 074***		***52%***

Table 9g: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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	76	18%					1 087	43%	
		North West	320	77%					1 436	57%	
		Elsewhere	20	5%					1	0%	
	MPA Total		***417***		***20%***				***2 525***		***43%***
	Salford City Council	Greater Manchester, Merseyside, Halton & Warrington	c	100%							
	MPA Total		***c***		***c***						
	Tameside Metropolitan Borough Council	Greater Manchester, Merseyside, Halton & Warrington							c	100%	
	MPA Total								***c***		***c***
	Warrington Borough Council	Greater Manchester, Merseyside, Halton & Warrington							c	80%	
		North West							c	20%	
	MPA Total								***c***		***c***
AWP Total			**2 055**		**100%**	**97**		**100%**	**5 897**		**100%**

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 because small amounts for non-aggregate use have been included for a few mineral planning authorities.

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 mineral planning authority, 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 mineral planning authorities where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

4. To maintain confidentiality some figures have been left blank. The totals remain correct.

Table 9h: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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	Bradford M. B. Council	West Yorkshire							10	17%	
		Yorkshire & the Humber							49	83%	
	MPA Total								***59***		***1%***
	Doncaster Metropolitan Borough Council	South Yorkshire	304	65%					1 037	81%	
		Yorkshire & the Humber	121	26%					64	5%	
		Elsewhere	46	10%					181	14%	
	MPA Total		***471***		***16%***				***1 282***		***18%***
	East Riding of Yorkshire Council[(a)]	East Riding, North Lincolnshire and North East Lincolnshire	264	35%					c	100%	
		Yorkshire & the Humber	401	52%							
		Elsewhere	99	13%							
	MPA Total		***764***		***26%***				***c***		***c***
	Kingston upon Hull City Council	East Riding, North Lincolnshire and North East Lincolnshire				192	100%				
	MPA Total					***192***		***100%***			
	Kirklees Metropolitan Borough Council	West Yorkshire							112	64%	
		Yorkshire & the Humber							63	36%	
	MPA Total								***175***		***2%***
	Leeds City Council	West Yorkshire	46	89%					248	100%	
		Yorkshire & the Humber	5	10%							
		Elsewhere	1	2%							
	MPA Total		***52***		***2%***				***248***		***3%***
	North Lincolnshire Council[(a)]	East Riding, North Lincolnshire and North East Lincolnshire	c	5%							
		Yorkshire & the Humber	c	31%							
		Elsewhere	c	64%							
	MPA Total		***c***		***c***						

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

Table 9h: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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	630	38%					1 461	58%	
		Yorkshire & the Humber	403	25%					714	29%	
		Elsewhere	609	37%					324	13%	
	MPA Total		***1 642***		***56%***				***2 500***		***34%***
	Wakefield M. B. Council	West Yorkshire							c	35%	
		Yorkshire & the Humber							c	65%	
	MPA Total								***c***		***c***
	Yorkshire Dales National Park	North Yorks, Yorkshire Dales and North York Moors National Parks							391	15%	
		Yorkshire & the Humber							1 295	49%	
		Elsewhere							947	36%	
	MPA Total								***2 632***		***36%***
AWP Total			**2 929**		**100%**	**192**		**100%**	**7 253**		**100%**

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 because small amounts for non-aggregate use have been included for a few mineral planning authorities.

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 mineral planning authority, 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 mineral planning authorities where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9i: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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	51	26%					958	47%	
		North East	121	61%					704	35%	
		Elsewhere	26	13%					130	6%	
		Unallocated	1	1%					227	11%	
	MPA Total		***199***		***26%***				***2 019***		***59%***
	Hartlepool Borough Council	Tees Valley							24	100%	
	MPA Total								***24***		***1%***
	Middlesbrough Borough Council	Tees Valley				79	72%				
		North East				31	28%				
		Elsewhere				0	0%				
	MPA Total					***111***		***20%***			
	Tyne and Wear	Tyne and Wear	c	100%		215	62%		169	73%	
		North East				100	29%		62	27%	
		Elsewhere				21	7%				
		Unallocated				7	2%				
	MPA Total		***c***		***c***	***345***		***61%***	***231***		***7%***
	Northumberland County Council[(a)]	Northumberland and the National Park	23	5%					285	25%	
		North East	403	95%					806	70%	
		Elsewhere	0	0%					60	5%	
		Unallocated							2	0%	
	MPA Total		***426***		***56%***				***1 153***		***34%***

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

Table 9i: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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 continued	Northumberland National Park[(a)]	Northumberland and the National Park							c	4%	
		North East							c	86%	
		Elsewhere							c	10%	
		Unallocated							c	0%	
	MPA Total								***c***		***c***
	Stockton-on-Tees Metropolitan Borough Council	Tees Valley				85	79%				
		North East				3	3%				
		Elsewhere				20	19%				
		Unallocated				0	0%				
	MPA Total					***108***		***19%***			
AWP Total			**758**		**100%**	**563**		**100%**	**3427**		**100%**

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 because small amounts for non-aggregate use have been included for a few mineral planning authorities.

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 mineral planning authority, 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 mineral planning authorities where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9j: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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	93%	
		South Wales							c	7%	
	MPA Total								***c***		***c***
	Brecon Beacons National Park	Remainder of South Wales							348	87%	
		South Wales							51	13%	
		Elsewhere							2	0%	
	MPA Total								***401***		***5%***
	Bridgend	South East Wales							c	97%	
		South Wales							c	3%	
		Elsewhere							c	0%	
	MPA Total								***c***		***c***
	Caerphilly	South East Wales							417	80%	
		South Wales							26	5%	
		Elsewhere							29	6%	
		Unallocated							48	9%	
	MPA Total								***520***		***7%***
	Cardiff County Council	South East Wales				188	80%		247		***44%***
		South Wales				24	10%		10	2%	
		Elsewhere				7	3%		1	0%	
		Unallocated				17	7%		302	54%	
	MPA Total					***236***	***44%***		***560***		***7%***
	Carmarthenshire	Remainder of South Wales							475	74%	
		South Wales	7	100%					167	26%	
		Elsewhere							0	0%	
	MPA Total		***7***		***5%***				***642***		***9%***

Table 9j: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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	Ceredigion	Remainder of South Wales	71	100%					9	7%	
		South Wales							2	2%	
		Elsewhere							119	91%	
	MPA Total		***71***		***49%***				***131***		***2%***
	Merthyr Tydfil	South East Wales							c	44%	
		South Wales							c	35%	
		Elsewhere							c	20%	
	MPA								***c***		***c***
	Monmouthshire	South East Wales							c	100%	
	MPA Total								***c***		***c***
	Neath Port Talbot	South East Wales				124	94%		20	7%	
		South Wales				8	6%		97	35%	
		Elsewhere							163	58%	
	MPA Total					***133***		***25%***	***281***		***4%***
	Newport	South East Wales				100	100%				
		South Wales				0	0%				
		Elsewhere				0	0%				
	MPA Total					***100***		***19%***			
	Pembrokeshire	Remainder of South Wales				35	100%		193	100%	
		South Wales	66	100%					1	0%	
	MPA Total		***66***		***46%***	***35***		***7%***	***194***		***3%***

Table 9j: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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	Powys	Remainder of South Wales	0	100%					504	23%	
		South Wales							111	5%	
		West Midlands							460	21%	
		North West							167	8%	
		North Wales							475	22%	
		Elsewhere							468	21%	
		Unallocated							16	1%	
	MPA Total		***0***		***0%***				***2 201***		***29%***
	Rhondda, Cynon, Taf (Taff)	South East Wales							373	45%	
		South Wales							342	41%	
		Elsewhere							115	14%	
	MPA Total								***829***		***11%***
	Swansea (City of)	South East Wales				32	93%				
		South Wales				2	7%				
	MPA Total					***35***		***6%***			
	Vale of Glamorgan	South East Wales							611	55%	
		South Wales							160	14%	
		Unallocated							334	30%	
	MPA Total								***1 105***		***15%***
AWP Total			**144**		**100%**	**539**		**100%**	**7 549**		**100%**

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 because small amounts for non-aggregate use have been included for a few mineral planning authorities.

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 mineral planning authority, 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 mineral planning authorities 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 mineral planning authority and principal destination sub-region in 2009: 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							19	3%	
		North Wales							448	66%	
		Elsewhere							192	28%	
		Unallocated							19	3%	
	MPA Total								***678***		***21%***
	Denbighshire	North East Wales							178	44%	
		North Wales							0	0%	
		Elsewhere							225	56%	
		Unallocated							3	1%	
	MPA Total								***405***		***12%***
	Flintshire	North East Wales	c	100%					905	51%	
		North Wales							119	7%	
		North West							705	40%	
		Elsewhere							35	2%	
		Unallocated							4	0%	
	MPA Total		***c***		***c***				***1 768***		***54%***
	Gwynedd	North West Wales							c	84%	
		North Wales	99	100%		32	100%		c	15%	
		Elsewhere							c	1%	
	MPA Total		99		17%	32		100%	c		c
	Isle of Anglesey[(a)]	North West Wales							373	95%	
		Elsewhere							22	6%	
	MPA Total								***394***		***12%***

a. Isle of Anglesey includes crushed rock for Gwynedd.

Table 9k: Sales of primary aggregates by mineral planning authority and principal destination sub-region in 2009: 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[(b)]	North East Wales	337	69%							
		North Wales	25	5%							
		Elsewhere	127	26%							
	MPA Total		***489***		***83%***						
AWP Total			**589**		**100%**	**32**		**100%**	**3 245**		**100%**

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 because small amounts for non-aggregate use have been included for a few mineral planning authorities.

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 mineral planning authority, 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 mineral planning authorities where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

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

Table 10: Imports of primary aggregates by sub-region in 2009

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	Avon	83		83	187	270
	Cornwall	20	0	20	57	77
	Devon	93	2	95	426	521
	Dorset	89	4	94	432	526
	Gloucestershire	180	47	227	366	593
	Somerset	378	39	417	313	731
	Wiltshire	588	45	633	1 116	1 750
	Unknown in the South West	42	44	86	562	648
	Total	**1 473**	**182**	**1 655**	**3 460**	**5 116**
South East	Berkshire	298	98	396	861	1 257
	Buckinghamshire and Milton Keynes	242		242	160	402
	East Sussex and Brighton and Hove	80	369	449	183	632
	Hampshire and the Isle of Wight	289	49	338	716	1 054
	Kent and Medway	76	186	262	340	602
	Oxfordshire	254	16	270	441	711
	Surrey	186	102	288	234	522
	West Sussex	24	138	163	367	530
	Unknown in the South East	234	107	341	31	372
	Total	**1 684**	**1 065**	**2 749**	**3 334**	**6 083**
London	East London	423	113	536	1 685	2 221
	West London	458	519	977	1 033	2 010
	Unknown in Greater London	232	528	760	644	1 404
	Total	**1 113**	**1 160**	**2 274**	**3 361**	**5 635**
East of England	Bedfordshire (Central Bedfordshire, Bedford and Luton)	338	3	341	570	911
	Cambridgeshire and Peterborough	231		231	1 308	1 539
	Essex, Southend and Thurrock	235	9	243	619	863
	Hertfordshire	163	1	163	413	576
	Norfolk	97	1	98	297	395
	Suffolk	271	1	272	221	493
	Unknown in the East of England	195		195	341	536
	Total	**1 530**	**14**	**1 544**	**3 769**	**5 313**
East Midlands	Derbyshire and Peak District National Park	396		396	588	984
	Leicestershire and Rutland	228		228	200	428

Table 10: Imports of primary aggregates by sub-region in 2009

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	503		503	317	820
	Northamptonshire	211		211	539	751
	Nottinghamshire	327		327	1 291	1 618
	Unknown in the East Midlands	877		877	579	1 456
	Total	**2 542**		**2 542**	**3 515**	**6 057**
West Midlands	Herefordshire	63	4	67	421	488
	Remainder of West Midlands	1 228		1 228	903	2 131
	Shropshire	166		166	207	373
	Staffordshire	141		141	544	685
	Warwickshire	359		359	449	808
	Worcestershire	45	13	58	192	250
	Unknown in the West Midlands Region	674		674	820	1 494
	Total	**2 676**	**17**	**2 693**	**3 536**	**6 229**
North West	Cheshire (Cheshire West & Chester and Cheshire East)	130	42	172	976	1 148
	Cumbria	11	17	28	177	205
	Greater Manchester, Merseyside, Halton & Warrington	568		568	3 533	4 100
	Lancashire	131	18	149	769	918
	Unknown in the North West	305	0	305	1 411	1 716
	Total	**1 145**	**76**	**1 221**	**6 866**	**8 087**
Yorkshire & the Humber	Humber (east Riding, North Lincolnshire and North East)	285	2	287	592	879
	North Yorks, Yorkshire Dales and North York Moors National Parks	140	40	179	470	650
	South Yorkshire	415		415	1 068	1 483
	West Yorkshire	764		764	1 860	2 624
	Unknown in Yorkshire & the Humber	132		132	230	362
	Total	**1 736**	**41**	**1 777**	**4 220**	**5 998**
North East	Durham	221	23	244	341	585
	Northumberland and the National Park	20	16	36	117	153
	Tees Valley	262	2	264	369	633
	Tyne and Wear	266	0	267	744	1 010
	Unknown in the North East	468	94	562	448	1 010
	Total	**1 237**	**135**	**1 372**	**2 018**	**3 391**
England		**15 136**	**2 691**	**17 827**	**34 079**	**51 906**

Table 10: Imports of primary aggregates by sub-region in 2009

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	Remainder of South Wales	45	35	79	610	690
	South East Wales	19	1	20	221	241
	Unknown in South Wales	74	0	74	1 212	1 285
	Total	**137**	**35**	**173**	**2 043**	**2 216**
North Wales	North East Wales	19	20	39	133	172
	North West Wales	28		28	394	422
	Unknown in North Wales	107	32	139	724	863
	Total	**154**	**53**	**206**	**1 251**	**1 457**
Wales		**291**	**88**	**379**	**3 294**	**3 673**
England and Wales		**15 427**	**2 779**	**18 206**	**37 373**	**55 580**

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 were the wharf is located.

3. The sub-regions used for Aggregate Minerals 2009 are shown on Map 3.

Table 11: Consumption of primary aggregates by sub-region in 2009

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	Avon	83	224	307	1 957	2 265
	Cornwall	20	0	20	739	760
	Devon	534	43	576	1 920	2 496
	Dorset	696	39	734	693	1 427
	Gloucestershire	353	47	400	975	1 375
	Somerset	379	69	447	4 276	4 723
	Wiltshire	854	45	900	1 116	2 016
	Unknown in the South West	42	44	86	562	648
	Total	**2 960**	**511**	**3 471**	**12 238**	**15 710**
South East	Berkshire	807	98	905	875	1 780
	Buckinghamshire and Milton Keynes	763		763	160	923
	East Sussex & Brighton and Hove	80	479	559	199	759
	Hampshire & Isle of Wight	973	1 034	2 007	746	2 754
	Kent and Medway	1 179	2 542	3 721	1 990	5 710
	Oxfordshire	741	16	757	625	1 382
	Surrey	654	102	756	234	990
	West Sussex	248	322	570	485	1 056
	Unknown in the South East	234	107	341	68	409
	Total	**5 679**	**4 700**	**10 380**	**5 383**	**15 762**
London	East London	611	2 591	3 202	1 998	5 200
	West London	616	706	1 322	1 065	2 387
	Unknown in Greater London	232	528	760	1 022	1 782
	Total	**1 459**	**3 824**	**5 283**	**4 086**	**9 369**
East of England	Bedfordshire (Central Bedfordshire, Bedford and Luton)	1 316	3	1 319	570	1 889
	Cambridgeshire and Peterborough	1 451		1 451	1 496	2 947
	Essex, Southend and Thurrock	2 389	277	2 666	744	3 410
	Hertfordshire	1 053	1	1 054	413	1 467
	Norfolk	1 240	1	1 241	439	1 680
	Suffolk	767	55	823	273	1 096
	Unknown in the East of England	195		195	341	536
	Total	**8 412**	**336**	**8 748**	**4 276**	**13 024**
East Midlands	Derbyshire and Peak District National Park	830		830	3 437	4 267
	Leicestershire and Rutland	531		531	4 054	4 585

Table 11: Consumption of primary aggregates by sub-region in 2009

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	2 019		2 019	641	2 659
	Northamptonshire	227		227	610	837
	Nottinghamshire	1 085		1 085	1 292	2 378
	Unknown in the East Midlands	877		877	579	1 456
	Total	**5 569**		**5 569**	**10 613**	**16 183**
West Midlands	Herefordshire	174	4	178	435	613
	Remainder of West Midlands	1 319		1 319	903	2 222
	Shropshire	616		616	1 140	1 755
	Staffordshire	1 992		1 992	883	2 876
	Warwickshire	493		493	667	1 160
	Worcestershire	159	13	172	192	364
	Unknown in the West Midlands Region	674		674	820	1 494
	Total	**5 427**	**17**	**5 444**	**5 040**	**10 484**
North West	Cheshire (Cheshire West & Chester and Cheshire East)	388	42	430	977	1 407
	Cumbria	243	17	259	1 993	2 252
	Greater Manchester, Merseyside Halton & Warrington	748		748	3 822	4 569
	Lancashire	207	18	225	1 856	2 081
	Unknown in the North West	305		305	1 652	1 957
	Total	**1 891**	**76**	**1 967**	**10 299**	**12 266**
Yorkshire & the Humber	Humber (East Riding, North Lincolnshire and North East)	549	194	743	789	1 533
	North Yorks, Yorkshire Dales and North York Moors National Parks	769	40	809	2 322	3 131
	South Yorkshire	719		719	2 106	2 825
	West Yorkshire	810		810	2 332	3 142
	Unknown in Yorkshire & the Humber	132		132	230	362
	Total	**2 980**	**234**	**3 214**	**7 779**	**10 993**
North East	Durham	272	23	295	1 299	1 594
	Northumberland and the National Park	43	16	59	402	460
	Tees Valley	262	167	428	393	821
	Tyne and Wear	399	216	615	981	1 596
	Unknown in the North East	468	94	562	448	1 010
	Total	**1 444**	**515**	**1 959**	**3 522**	**5 481**
England		**35 821**	**10 035**	**45 856**	**63 236**	**109 092**

Table 11: Consumption of primary aggregates by sub-region in 2009

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	Remainder of South Wales	116	70	186	2 139	2 325
	South East Wales	19	446	465	2 536	3 001
	Unknown in South Wales	74	0	74	1 212	1 285
	Total	**209**	**516**	**724**	**5 886**	**6 611**
North Wales	North East Wales	356	20	377	1 234	1 611
	North West Wales	28		28	735	764
	Unknown in North Wales	107	32	139	724	863
	Total	**491**	**53**	**544**	**2 694**	**3 238**
Wales		**700**	**568**	**1 268**	**8 580**	**9 848**
England and Wales		**36 521**	**10 782**	**47 403**	**71 816**	**119 120**

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 mineral planning authorities.

2. The sub-regions used for Aggregate Minerals 2009 are shown on Map 3.

Table 12: Permitted reserves of land-won primary aggregates in active and inactive sites at 31 December 2009

Thousand tonnes

	Sand and Gravel					Crushed Rock					Grand total (Excluding dormant)
Region	**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	32 168	3 558	4 781	40 508		711 883	156 475		868 359	305 285	908 866
South East	63 607	4 602	10 837	79 046	2 020	44 903	9 002	4 899	58 804	685	137 850
London	1 702			1 952							1 952
East of England	120 692	14 213	12 467	147 372	2 082	2 243	1 100		3 343	2 900	150 715
East Midlands	54 764	9 391	16 439	80 594	7 270	1 018 426	285 032		1 303 457	33 379	1 384 052
West Midlands	77 791	25 693	210	103 694	3 500	217 306	67 775	26 700	311 781	4 600	415 476
North West	30 042	7 623	4 100	41 765		307 309	17 771	2 300	327 380		369 146
Yorkshire & the Humber	28 493	5 507		34 000		284 660	16 437		301 097		335 096
North East	8 713	6 624		15 337	1 200	167 335	49 226		216 561	23 313	231 898
England	**417 972**	**77 461**	**48 834**	**544 267**	**17 437**	**2 754 065**	**602 818**	**33 899**	**3 390 782**	**370 162**	**3 935 049**
(%)	*96%*	*97%*	*100%*	*96%*	*94%*	*86%*	*81%*	*100%*	*85%*	*94%*	*87%*
South Wales	1 672			1 672	350	286 742	132 220		418 962	21 006	420 634
North Wales	17 272	2 002		19 274	840	167 786	4 641		172 428	1 405	191 701
Wales	**18 943**	**2 002**		**20 945**	**1 190**	**454 529**	**136 861**		**591 390**	**22 411**	**612 335**
(%)	*4%*	*3%*		*4%*	*6%*	*14%*	*19%*		*15%*	*6%*	*13%*
England and Wales	**436 915**	**79 463**	**48 834**	**565 212**	**18 627**	**3 208 594**	**739 680**	**33 899**	**3 982 172**	**392 573**	**4 547 384**

1. For aggregate use only.

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

3. 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.

4. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

5. 97.1% of total reserves is based on figures supplied by site operators. The remaining 2.9% 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 2009

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	40 508	79 046	1 952	147 372	80 594	103 694	41 765	34 000	15 337	**544 267**	1 672	19 274	**20 945**	**565 212**
National Park		1 036								**1 036**	200		**200**	**1 236**
AONB	1 775	12 309		1 271	2 500	24 667				**42 522**				**42 522**
SSSI	10 272	16 435		4 042	5 139	12 346	1 575	9 347	1 346	**60 503**	2		**2**	**60 504**
SPA and SAC	10 259	9 767		1 250			1 575			**22 851**	2		**2**	**22 852**
Green Belt		34 950	1 952	14 956		45 049	20 333	1 470	272	**123 699**				**123 699**
Crushed rock														
All sites	868 359	58 804		3 343	1 303 457	311 781	327 380	301 097	216 561	**3 390 782**	418 962	172 428	**591 390**	**3 982 172**
National Park	c				142 532		56 409	106 238	c	**333 651**	49 584		**49 584**	**383 235**
AONB	166 682	3 002			11 731	35 558	13 547	17 456	24 046	**272 021**		4 641	**4 641**	**276 662**
SSSI	257 079	5 079			372 611	171 418	238	155 959	31 492	**993 877**		35 714	**35 714**	**1 029 591**
SPA and SAC	35 375				21 161			91 346	18 971	**166 852**				**166 852**
Green Belt	87 248	31 929					23 233	42 763		**186 404**				**186 404**

1. For aggregate use only.

2. Dormant sites are **not** included.

3. Designations are not mutually exclusive, e.g. Sites of Special Scientific Interest may overlap with others, such as National Parks and Areas of Outstanding Natural Beauty. Special Areas of Conservation and Special Protection Areas are also Sites of Special Scientific Interest. They are sub-sets of Sites of Special Scientific Interest. Some designations, notably Sites of Special Scientific Interest, 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.

5. To maintain confidentiality some regional figures have been left blank. The totals remain correct

Table 14: Total reserves of primary aggregates granted planning permission between 2006 and 2009

Thousand tonnes

	Sand and gravel		Crushed rock		Grand total	
Region	**Thousand tonnes**	**No. of sites**	**Thousand tonnes**	**No. of sites**	**Thousand tonnes**	**No. of sites**
South West	10 141	15	13 908	7	24 049	22
South East	30 848	38	1 419	5	32 267	43
London	1 686	4			1 686	4
East of England	43 753	45	315	2	44 068	47
East Midlands	35 869	20	52 345	7	88 214	27
West Midlands	17 771	20	33 300	3	51 071	23
North West	15 901	15	25 869	7	41 771	22
Yorkshire & the Humber	4 547	8	11 485	10	16 032	18
North East	4 791	3	9 290	5	14 081	8
England	**165 306**	**168**	**147 931**	**46**	**313 238**	**214**
South Wales	250	1	31 848	11	32 098	12
North Wales	200	1	3 539	4	3 739	5
Wales	**450**	**2**	**35 387**	**15**	**35 837**	**17**
England and Wales	**165 756**	**170**	**183 318**	**61**	**349 075**	**231**

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, in North Wales, six permissions totalled 1.9 million tonnes of slate.
3. Includes seven planning permissions granted on appeal.

Table 15: Total quantity of primary aggregates refused planning permission between 2006 and 2009

Thousand tonnes

	Sand and gravel		Crushed rock		Grand total	
Region	**Thousand tonnes**	**No. of sites**	**Thousand tonnes**	**No. of sites**	**Thousand tonnes**	**No. of sites**
South West						
South East	4 390	6			4 390	6
London	200	1			200	1
East of England	5 099	8			5 099	8
East Midlands	5 300	1	1 500	1	6 800	2
West Midlands						
North West			1 400	1	1 400	1
Yorkshire & the Humber	975	1	5 138	6	6 113	7
North East						
England	**15 964**	**17**	**8 038**	**8**	**24 002**	**25**
South Wales						
North Wales						
Wales						
England and Wales	**15 964**	**17**	**8 038**	**8**	**24 002**	**25**

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, in North Wales, there was one refusal, tonnage unknown.
3. Includes two planning permissions refused on appeal.

Table 16: Total quantity of primary aggregates currently awaiting planning permission decision between 2006 and 2009

Thousand tonnes

	Sand and gravel		Crushed rock		Grand total	
Region	**Thousand tonnes**	**No. of sites**	**Thousand tonnes**	**No. of sites**	**Thousand tonnes**	**No. of sites**
South West	5 938	6	23 050	3	28 988	9
South East	13 938	8	140	1	14 078	9
London						
East of England	9 155	7			9 155	7
East Midlands	10 731	8	139 140	6	149 871	14
West Midlands	8 030	6			8 030	6
North West	570	2	5 200	1	5 770	3
Yorkshire & the Humber	1 170	1	4 000	3	5 170	4
North East	6 062	7	35 360	8	41 422	15
England	**55 594**	**45**	**206 890**	**22**	**262 484**	**67**
South Wales	2 410	3	13 168	4	15 578	7
North Wales						
Wales	**2 410**	**3**	**13 168**	**4**	**15 578**	**7**
England and Wales	**58 004**	**48**	**220 058**	**26**	**278 062**	**74**

1. Includes planning permissions awaiting a Section 106 Agreement.

Table 17: Total quantity of primary aggregates withdrawn from the planning application process between 2006 and 2009

Thousand tonnes

	Sand and gravel		Crushed rock		Grand total	
Region	**Thousand tonnes**	**No. of sites**	**Thousand tonnes**	**No. of sites**	**Thousand tonnes**	**No. of sites**
South West	340	1	34	1	374	2
South East	3 310	3			3 310	3
London						
East of England	1 200	4			1 200	4
East Midlands	4 530	2	545	1	5 075	3
West Midlands	1 200	1			1 200	1
North West						
Yorkshire & the Humber	1 000	1			1 000	1
North East	1 660	1			1 660	1
England	**13 240**	**13**	**579**	**2**	**13 819**	**15**
South Wales			8 400	1	8 400	1
North Wales						
Wales			**8 400**	**1**	**8 400**	**1**
England and Wales	**13 240**	**13**	**8 979**	**3**	**22 219**	**16**

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

Table 18: Number of active land-won quarries and marine wharves in 2009

	Quarry						Marine wharf	
Region	**Limestone**	**Igneous rock**	**Sandstone**	**Chalk**	**Ironstone**	**Sand & gravel**	**Sand & gravel**	**Crushed rock**
South West	39	12	10	1		37	5	
South East	9		5	8	3	86	25	12
London						6	14	5
East of England	3		2	5	2	114	4	2
East Midlands	45	5	14	2	1	41		
West Midlands	5	4	4			38		
North West	17	3	16		1	32	1	1
Yorkshire & the Humber	24		21	4		26	2	1
North East	16	8				11	6	2
England	**158**	**32**	**72**	**20**	**7**	**391**	**57**	**23**
South Wales	24	4	19			5	9	1
North Wales	11	4				5	1	
Wales	**35**	**8**	**19**			**10**	**10**	**1**
England and Wales	**193**	**40**	**91**	**20**	**7**	**401**	**67**	**24**

Table A1: Sales of land-won sand and gravel by product (end use) in 2009

Thousand tonnes

Product	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	62	285		314	204	122	93	49	41	1 169	1	4	5	1 175
Sand for use in mortar (building sand)	444	1 101	68	658	460	464	395	382	225	4 196	40	36	76	4 272
Sand for concreting	1 531	1 655	226	3 053	2 467	2 030	931	1 223	295	13 412	55	287	341	13 753
Gravel														
Gravel for asphalt (on or off site)	66	7		175	199	161	0	3	0	611				611
Gravel for concrete aggregate	760	1 772	266	2 340	1 570	1 598	21	704	76	9 106	9	166	175	9 282
Other screened and graded gravels for other aggregate purposes	178	746	15	832	366	675	83	490	80	3 466	23	52	75	3 540
Sand and gravel														
Sand and gravel for constructional fill	88	421	2	2 003	235	414	223	78	34	3 499	16	45	60	3 560
Undifferentiated aggregate use	23	20		292		397	433		6	1 171				1 171
Total for aggregate use	**3 152**	**6 007**	**577**	**9 666**	**5 501**	**5 860**	**2 180**	**2 929**	**758**	**36 631**	**144**	**589**	**733**	**37 363**
Total for all non-aggregate use	**23**	**633**		**501**	**200**	**49**	**1 188**	**c**	**c**	**2 763**	**33**	**20**	**53**	**2 815**
Total for all uses	**3 174**	**6 641**	**577**	**10 167**	**5 701**	**5 909**	**3 368**	**c**	**c**	**39 393**	**177**	**609**	**785**	**40 179**

1. Figures may not add because of rounding.

Table A2: Sales of marine-dredged sand and gravel by product (end use) in 2009

Thousand tonnes

Product	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		12	30					26		69	4		4	72
Sand for use in mortar (building sand)	149	27	67	126					4	373	143	32	176	548
Sand for concreting	296	1 882	1 969	144			97	93	422	4 902	454		454	5 356
Gravel														
Gravel for use in asphalt (on or off site)		6								6				6
Gravel for concrete aggregate	30	1 573	1 454	21				60	20	3 159	1		1	3 161
Other screened and graded gravels for other aggregate purposes		277	77	2				14	107	476	0		0	476
Sand and gravel														
Other sand and gravel, including for constructional fill	12	1 208	65	29					9	1 323	11		11	1 334
Undifferentiated aggregate use											0		0	0
Total for aggregate use	**487**	**4 985**	**3 662**	**322**			**97**	**192**	**563**	**10 308**	**613**	**32**	**645**	**10 953**
Total for all non-aggregate use		**1**								**2**	**5**		**5**	**7**
Total for all uses	**487**	**4 986**	**3 662**	**322**			**97**	**192**	**563**	**10 310**	**618**	**32**	**651**	**10 960**

1. Figures may not add because of rounding.

Table A3: Sales of crushed rock by product (end use) in 2009

Thousand tonnes

Product	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 (exc. weight of binder)	1 186				1 598	745	333	41	342	4 245	861	435	1 296	5 541
Crushed rock, coated for asphalt off site	2 075				1 387	545	720	1 054	232	6 013	1 659	135	1 794	7 807
Crushed rock for uncoated roadstone & foundation work	3 325	618			3 914	422	916	1 380	620	11 196	759	328	1 087	12 283
Rock chippings for surface dressing	69				550	59	42	296	18	1 035	360	11	371	1 407
Rail ballast	35				1 651	1			7	1 695	30	21	51	1 746
Concrete aggregate	4 316	17			4 546	188	1 160	1 896	590	12 713	1 505	698	2 203	14 916
Other screened and graded aggregates	2 385	130		21	4 115	239	847	853	909	9 499	975	638	1 613	11 112
Armourstone and gabion stone	37	7			37	7	29	40	36	194	66	39	105	299
Other construction uses, including fill	3 501	362		268	3 512	339	755	1 680	574	10 991	1 281	707	1 988	12 979
Undifferentiated aggregate use	275	160			110	93	1 095			1 734	690	231	921	2 655
Total for aggregate use	**17 206**	**1 294**		**289**	**21 421**	**2 639**	**5 897**	**7 240**	**3 328**	**59 314**	**8 185**	**3 245**	**11 430**	**70 744**
Building stone (exc. reconstituted stone)	52	57		0	130	4	36	93	0	374	58	5	63	437
Cement manufacture					3 383		733			4 116	663	487	1 151	5 267
Agricultural use on the land and horticulture	237	78		76	241	53	38	76	372	1 170	109	5	115	1 284
Flux in iron and steel manufacture	66				469	0	290	150	311	1 286	195		195	1 482
For all other industrial uses	48			45	3 169	1	1			3 408	3		3	3 411
Undifferentiated non-aggregate use						315	301			617		3	3	620
Total for all non-aggregate use	**404**	**135**		**121**	**7 391**	**374**	**1 399**	**463**	**683**	**10 970**	**1 029**	**500**	**1 529**	**12 500**
Total for all uses	**17 610**	**1 429**		**410**	**28 812**	**3 013**	**7 296**	**7 703**	**4 011**	**70 285**	**9 214**	**3 746**	**12 959**	**83 244**

1. Figures may not add because of rounding.
2. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table A4: Sales of crushed rock for aggregate use by mineral in 2009

Thousand tonnes

Region	Limestone / dolomite	Igneous rock	Sandstone	Chalk	Ironstone	Total
South West	15 242	1 566	397			17 206
South East	1 086		25	23	160	1 294
London						
East of England	220		28	3	38	289
East Midlands	10 734	10 677	10	c		21 421
West Midlands	710	994	935			2 639
North West	3 774	1 068	1 055			5 897
Yorkshire & the Humber	5 782		1 384	74		7 240
North East	2 238	1 090				3 328
England	**39 786**	**15 396**	**3 834**	**100**	**198**	**59 314**
South Wales	4 554	1 025	2 605			8 185
North Wales	2 636	610				3 245
Wales	**7 190**	**1 635**	**2 605**			**11 430**
England and Wales	**46 976**	**17 031**	**6 439**	**100**	**198**	**70 744**

1. For aggregate use only.
2. Figures may not add because of rounding.
3. Limestone in the East Midlands includes a small amount of chalk to maintain confidentiality

Table A5: Sales of crushed rock for non-aggregate use by mineral in 2009

Thousand tonnes

Region	Limestone / dolomite	Igneous rock	Sandstone	Chalk	Ironstone	Total
South West	394	7	3	c		404
South East	27		13	51	43	135
London						
East of England	51		0	70		121
East Midlands	7 317		73	c		7 391
West Midlands	51	7	317			374
North West	1 066		333			1 399
Yorkshire & the Humber	359		90	14		463
North East	682	2				683
England	**9 947**	**16**	**829**	**136**	**43**	**10 970**
South Wales	1 008	1	20			1 029
North Wales	493	8				500
Wales	**1 501**	**8**	**20**			**1 529**
England and Wales	**11 448**	**24**	**849**	**136**	**43**	**12 500**

1. Figures may not add because of rounding.
2. Limestone in the South West includes small amounts of chalk to maintain confidentiality.
3. Limestone in the East Midlands includes a small amount of chalk to maintain confidentiality.

Table B1: Permitted reserves of land-won primary aggregates at 31 December 2009 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														
Concreting sand	5 714	18 642	328	5 061	9 909	1 388	6 862	10 390	2 766	61 060	487	11 050	11 537	**72 597**
Other sand (Inc. building & asphalting sand)	4 410	18 860	179	7 883	7 747	3 526	9 695	6 964	5 801	65 065	857	2 635	3 492	**68 557**
Undifferentiated sand	7 437	1 510		9 360		1 538	3 612	2 107		25 564				**25 564**
Total sand [(a)]	17 560	39 013	507	22 304	17 656	6 451	20 168	19 461	8 568	151 688	1 344	13 685	15 029	**166 717**
Total gravel	4 828	20 546	443	3 530	9 590	567	1 617	7 629	1 669	50 419	128	3 564	3 692	**54 111**
Undifferentiated sand & gravel [(b)]	18 120	23 681	1 030	132 528	53 658	97 053	32 019	8 595	5 170	371 854	200	2 772	2 972	**374 826**
Total sand & gravel - for aggregate	**40 508**	**79 046**	**1 952**	**147 372**	**80 594**	**103 694**	**41 765**	**34 000**	**15 337**	**544 268**	**1 672**	**19 274**	**20 946**	**565 214**
Sand & gravel - for non-aggregate use		4 193	29	10 990	310	377	12 039	c	c	29 963		747	747	**30 440**
Crushed rock														
Limestone/dolomite - for aggregate	680 366	42 972		1 418	981 676	203 915	171 529	271 097	171 122	2 524 095	235 624	131 059	366 683	**2 890 778**
- for non-aggregate use	5 619	1 002		208	548 201	2 650	46 578	5 054	11 064	620 376	72 508	35 852	108 360	**728 736**
Igneous rock - for aggregate	162 213				307 080	59 335	64 743		45 439	638 810	37 965	41 369	79 334	**718 144**
- for non-aggregate use	24 375					1 742				26 117	9 770		9 770	**35 887**
Sandstone - for aggregate	22 135	2 694		1 660	2 221	48 532	91 108	29 592		197 942	145 374		145 374	**343 316**
- for non-aggregate use	258	81			6 888		3 447	3 138		13 812	19 412		19 412	**33 224**
Chalk - for aggregate	3 644	10 945			12 481			408		27 478				**27 478**
- for non-aggregate use		5 225		22 455	2 012			193		29 885				**29 885**
Ironstone - for aggregate		2 193		265						2 458				**2 458**
- for non-aggregate use		8								8				**8**
Total crushed rock – for aggregate	**868 359**	**58 804**		**3 343**	**1 303 457**	**311 781**	**327 380**	**301 097**	**216 561**	**3 390 782**	**418 962**	**172 428**	**591 390**	**3 982 172**
- for non-aggregate use	30 251	6 316		22 663	557 100	4 392	50 025	8 384	11 064	690 195	101 690	35 852	137 542	**827 737**

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. Reserves for aggregate use exclude material for non-aggregate use.

Table B2: Permitted reserves of land-won primary aggregates at 31 December 2008 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	40 508	79 046	1 952	147 372	80 594	103 694	41 765	34 000	15 337	**544 267**	1 672	19 274	**20 945**	**565 212**
National Park		1 036								**1 036**	200		**200**	**1 236**
AONB	1 775	12 309		1 271	2 500	24 667				**42 522**				**42 522**
SSSI	10 272	16 435		4 042	5 139	12 346	1 575	9 347	1 346	**60 503**	2		**2**	**60 504**
SPA and SAC	10 259	9 767		1 250			1 575			**22 851**	2		**2**	**22 852**
Green Belt		34 950	1 952	14 956		45 049	20 333	1 470	272	**123 699**				**123 699**
Crushed rock														
All sites	868 359	58 804		3 343	1 303 457	311 781	327 380	301 097	216 561	**3 390 782**	418 962	172 428	**591 390**	**3 982 172**
National Park	c				142 532		56 409	106 238	c	**333 651**	49 584		**49 584**	**383 235**
AONB	166 682	3 002			11 731	35 558	13 547	17 456	24 046	**272 021**		4 641	**4 641**	**276 662**
SSSI	257 079	5 079			372 611	171 418	238	155 959	31 492	**993 877**		35 714	**35 714**	**1 029 591**
SPA and SAC	35 375				21 161			91 346	18 971	**166 852**				**166 852**
Green Belt	87 248	31 929					23 233	42 763		**186 404**				**186 404**

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. Sites of Special Scientific Interest may overlap with others, such as National Parks and Areas of Outstanding Natural Beauty. Special Areas of Conservation and Special Protection Areas are also Sites of Special Scientific Interest. They are sub-sets of Sites of Special Scientific Interest. Some designations, notably Sites of Special Scientific Interest, 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.

5. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table B3: Permitted reserves of land-won primary aggregates at 31 December 2009 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	0	4 193	29	10 990	310	377	12 039	c	c	**29 695**		747	**747**	**30 442**
National Park														
AONB	0	1 473								**1 473**				**1 473**
SSSI	0			106						**106**				**106**
SPA and SAC														
Green Belt		4 193	29	3 345		18	1 746			**9 331**				**9 331**
Crushed rock														
All sites	30 251	6 316		22 663	557 100	4 392	50 025	8 384	11 064	**690 194**	101 690	35 852	**137 542**	**827 736**
National Park					193 931					**193 931**	2 003		**2 003**	**195 934**
AONB	23 372	2 609			2 012		334	31		**28 358**				**28 358**
SSSI	8 730	540		20 000	28 964		23 530	2 381	77	**84 221**				**84 221**
SPA and SAC	179				6 054					**6 233**				**6 233**
Green Belt		2 241					2 587	4 193	1 231	**11 451**				**11 451**

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

2. Designations are not mutually exclusive, e.g. Sites of Special Scientific Interest may overlap with others, such as National Parks and Areas of Outstanding Natural Beauty. Special Areas of Conservation and Special Protection Areas are also Sites of Special Scientific Interest. They are sub-sets of Sites of Special Scientific Interest. Some designations, notably Sites of Special Scientific Interest, 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. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table B4: Permitted reserves of primary aggregates at 31 December 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	1 365	2 020		2 082	7 270	3 500			1 200	**17 437**	350	840	**1 190**	**18 627**
National Park														
AONB														
SSSI														
SPA and SAC														
Green Belt		1 070				3 500			400	**4 970**				**4 970**
Crushed rock														
All sites	305 285	685		2900	33 379	4 600			23 313	**370 162**	21 006	1 405	**22 411**	**392 573**
National Park					4 000					**4 000**	250		**250**	**4 250**
AONB	9 950					4 600			9 484	**24 034**				**24 034**
SSSI	212 310								13 179	**225 489**				**225 489**
SPA and SAC	41 000									**41 000**				**41 000**
Green Belt														

1. For aggregate use only.

2. Designations are not mutually exclusive, e.g. Sites of Special Scientific Interest may overlap with others, such as National Parks and Areas of Outstanding Natural Beauty. Special Areas of Conservation and Special Protection Areas are also Sites of Special Scientific Interest. They are sub-sets of Sites of Special Scientific Interest. Some designations, notably Sites of Special Scientific Interest, 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. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

5. 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 and refusals

Table C1: Total reserves of sand and gravel granted planning permission between 2006 and 2009 by site type

Thousand tonnes

	New quarries		Extensions		Borrow pits	
Region	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**
South West	5 240	3	4 770	10	131	2
South East	15 561	9	15 287	29		
London	660	1	1 026	3		
East of England	14 763	14	28 977	30	13	1
East Midlands	8 599	2	27 270	18		
West Midlands	1 100	1	16 366	15	305	4
North West	5 770	4	10 131	11		
Yorkshire & the Humber	1 260	1	3 287	7		
North East	1 980	1	2 811	2		
England	**54 932**	**36**	**109 925**	**125**	**449**	**7**
South Wales			250	1		
North Wales					200	1
Wales			**250**	**1**	**200**	**1**
England and Wales	**54 932**	**36**	**110 175**	**126**	**649**	**8**

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

Table C2: Total quantity of sand and gravel refused planning permission between 2006 and 2009 by site type

Thousand tonnes

	New quarries		Extensions		Borrow pits	
Region	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**
South West						
South East	2 150	2	2 240	4		
London			200	1		
East of England	4 520	5	579	3		
East Midlands			5 300	1		
West Midlands						
North West						
Yorkshire & the Humber	975	1				
North East						
England	**7 645**	**8**	**8 319**	**9**		
South Wales						
North Wales						
Wales						
England and Wales	**7 645**	**8**	**8 319**	**9**		

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

Table C3: Total quantity of sand and gravel currently awaiting planning permission decision between 2006 and 2009 by site type

Thousand tonnes

	New quarries		Extensions		Borrow pits	
Region	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**
South West	3 083	3	2 855	3		
South East	5 640	3	6 876	4	1 422	1
London						
East of England	4 275	2	4 880	5		
East Midlands	3 970	1	6 761	7		
West Midlands	4 430	3	3 600	3		
North West			570	2		
Yorkshire & the Humber			1 170	1		
North East	2 500	1	3 562	6		
England	**23 898**	**13**	**30 274**	**31**	**1 422**	**1**
South Wales	60	1	2 350	2		
North Wales						
Wales	**60**	**1**	**2 350**	**2**		
England and Wales	**23 958**	**14**	**32 624**	**33**	**1 422**	**1**

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

Table C4: Total quantity of sand and gravel withdrawn from the planning application process between 2006 and 2009 by site type

Thousand tonnes

	New quarries		Extensions		Borrow pits	
Region	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**
South West	340	1				
South East	3 070	2	240	1		
London						
East of England	1 000	2	200	2		
East Midlands	30	1	4 500	1		
West Midlands	1 200	1				
North West						
Yorkshire & the Humber	1 000	1				
North East			1 660	1		
England	**6 640**	**8**	**6 600**	**5**		
South Wales						
North Wales						
Wales						
England and Wales	**6 640**	**8**	**6 600**	**5**		

1. New quarries excludes borrow pits.
2. Extensions include lateral and vertical.
3. Only includes those planning permission applications withdrawn and not subsequently re-submitted.

Table C5: Total reserves of crushed rock granted planning permission between 2006 and 2009 by site type

Thousand tonnes

	New quarries		Extensions		Borrow pits	
Region	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**
South West			13 906	6	2	1
South East	450	1	969	4		
London						
East of England			315	2		
East Midlands	1 400	1	50 945	6		
West Midlands			33 300	3		
North West	2 469	3	23 400	4		
Yorkshire & the Humber			11 335	9	150	1
North East	500	1	8 790	4		
England	**4 819**	**6**	**142 960**	**38**	**152**	**2**
South Wales	247	4	31 601	7		
North Wales			3 539	4		
Wales	**247**	**4**	**35 140**	**11**		
England and Wales	**5 066**	**10**	**178 100**	**49**	**152**	**2**

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

Table C6: Total quantity of crushed rock refused planning permission between 2006 and 2009 by site type

Thousand tonnes

	New quarries		Extensions		Borrow pits	
Region	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**
South West						
South East						
London						
East of England						
East Midlands			1 500	1		
West Midlands						
North West			1 400	1		
Yorkshire & the Humber			5 133	5	5	1
North East						
England			**8 033**	**7**	**5**	**1**
South Wales						
North Wales						
Wales						
England and Wales			**8 033**	**7**	**5**	**1**

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

Table C7: Total quantity of crushed rock currently awaiting planning permission decision between 2006 and 2009 by site type

Thousand tonnes

	New quarries		Extensions		Borrow pits	
Region	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**
South West			23 050	3		
South East			140	1		
London						
East of England						
East Midlands			139 140	6		
West Midlands						
North West			5 200	1		
Yorkshire & the Humber			4 000	3		
North East	5 070	3	30 290	5		
England	**5 070**	**3**	**201 820**	**19**		
South Wales	4 773	2	8 395	2		
North Wales						
Wales	**4 773**	**2**	**8 395**	**2**		
England and Wales	**9 843**	**5**	**210 215**	**21**		

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

Table C8: Total quantity of crushed rock withdrawn from the planning application process between 2006 and 2009 by site type

Thousand tonnes

	New quarries		Extensions		Borrow pits	
Region	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**
South West			34	1		
South East						
London						
East of England						
East Midlands			545	1		
West Midlands						
North West						
Yorkshire & the Humber						
North East						
England			**579**	**2**		
South Wales			8 400	1		
North Wales						
Wales			**8 400**	**1**		
England and Wales			**8 979**	**3**		

1. New quarries excludes borrow pits.
2. Extensions include lateral and vertical.
3. Only includes those planning permission applications withdrawn and not subsequently re-submitted.

Table C9: Total reserves of sand and gravel granted planning permission between 2006 and 2009 by environmental designation

Thousand tonnes

	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			60	1	1 800	1	1 800	1	1 840	2
South East			709	3	65	1	240	2	15 293	16
London									1 686	4
East of England			773	1			4 453	4		
East Midlands										
West Midlands			2 000	1	2 000	1	2 000	1	10 881	14
North West									6 845	6
Yorkshire & the Humber									432	1
North East									2 811	2
England			**3 542**	**6**	**3 865**	**3**	**8 493**	**8**	**39 788**	**45**
South Wales	250	1								
North Wales										
Wales	**250**	**1**								
England and Wales	**250**	**1**	**3 542**	**6**	**3 865**	**3**	**8 493**	**8**	**39 788**	**45**

1. SPA / SAC are a subset of SSSI.

Table C10: Total quantity of sand and gravel refused planning permission between 2006 and 2009 by environmental designation

Thousand tonnes

	National Park		AONB		SPA / SAC		SSSI		Green Belt	
Region	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**
South West										
South East									280	2
London									200	1
East of England							44	1		
East Midlands										
West Midlands										
North West										
Yorkshire & the Humber										
North East										
England							**44**	**1**	**480**	**3**
South Wales										
North Wales										
Wales										
England and Wales							**44**	**1**	**480**	**3**

Table C11: Total quantity of sand and gravel currently awaiting planning permission decision between 2006 and 2009 by environmental designation

Thousand tonnes

	National Park		AONB		SPA / SAC		SSSI		Green Belt	
Region	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**
South West										
South East					1 422	1	1 422	1	12 416	6
London										
East of England					1 250	1	1 250	1	2 070	1
East Midlands										
West Midlands									2 000	2
North West									500	1
Yorkshire & the Humber										
North East									1 000	2
England					**2 672**	**2**	**2 672**	**2**	**17 986**	**12**
South Wales	2 350	2								
North Wales										
Wales	**2 350**	**2**								
England and Wales	**2 350**	**2**			**2 672**	**2**	**2 672**	**2**	**17 986**	**12**

1. SPA / SAC are a subset of SSSI.
2. Includes planning permissions awaiting a Section 106 Agreement.

Table C12: Total quantity of sand and gravel withdrawn from the planning application process between 2006 and 2009 by environmental designation

Thousand tonnes

	National Park		AONB		SPA / SAC		SSSI		Green Belt	
Region	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**
South West										
South East									2 210	2
London										
East of England										
East Midlands										
West Midlands							1 200	1	1 200	1
North West										
Yorkshire & the Humber										
North East										
England							**1 200**	**1**	**3 410**	**3**
South Wales										
North Wales										
Wales										
England and Wales							**1 200**	**1**	**3 410**	**3**

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

Table C13: Total reserves of crushed rock granted planning permission between 2006 and 2009 by environmental designation

Thousand tonnes

	National Park		AONB		SPA / SAC		SSSI		Green Belt	
Region	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**
South West			2 396	2			2 000	1		
South East							450	1	450	1
London										
East of England										
East Midlands										
West Midlands			100	1						
North West			1	1					4500	1
Yorkshire & the Humber							500	1	4985	6
North East										
England			**2 497**	**4**			**2 950**	**3**	**9935**	**8**
South Wales										
North Wales			136	1						
Wales			**136**	**1**						
England and Wales			**2 633**	**5**			**2 950**	**3**	**9935**	**8**

Table C14: Total quantity of crushed rock refused planning permission between 2006 and 2009 by environmental designation

Thousand tonnes

	National Park		AONB		SPA / SAC		SSSI		Green Belt	
Region	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**
South West										
South East										
London										
East of England										
East Midlands	1 500	1								
West Midlands										
North West									1 400	1
Yorkshire & the Humber	5	1							3 063	4
North East										
England	**1 505**	**2**							**4463**	**5**
South Wales										
North Wales										
Wales										
England and Wales	**1 505**	**2**							**4463**	**5**

Table C15: Total quantity of crushed rock currently awaiting planning application decision between 2006 and 2009 by environmental designation

Thousand tonnes

	National Park		AONB		SPA / SAC		SSSI		Green Belt	
Region	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**
South West			10 300	1						
South East										
London										
East of England										
East Midlands							1 500	1		
West Midlands										
North West							5 200	1		
Yorkshire & the Humber	3 000	2						1		
North East			3 750	1						
England	**3 000**	**2**	**14 050**	**2**			**6 700**	**3**		
South Wales										
North Wales										
Wales										
England and Wales	**3 000**	**2**	**14 050**	**2**			**6 700**	**3**		

1. Includes planning permissions awaiting a Section 106 Agreement.

Table C16: Total quantity of crushed rock withdrawn for the planning application process between 2006 and 2009 by environmental designation

Thousand tonnes

	National Park		AONB		SPA / SAC		SSSI		Green Belt	
Region	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**	**Thousand tonnes**	**Permissions**
South West			34	1						
South East										
London										
East of England										
East Midlands										
West Midlands										
North West										
Yorkshire & the Humber										
North East										
England			**34**	**1**						
South Wales										
North Wales										
Wales										
England and Wales			**34**	**1**						

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

Appendix D: Comparison with previous aggregate minerals surveys

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

Thousand tonnes

	Sand and Gravel – Land-Won and Marine Dredged								
Region	**1973**	**1977**	**1985**	**1989**	**1993**	**1997**	**2001**	**2005**	**2009**
South West	8 662	5 509	6 380	7 703	4 605	5 092	5 791	5 264	3 638
South East, London, East of England	60 660	46 731	49 305	62 345	38 648	36 175	40 643	34 474	25 220
East Midlands	14 184	10 539	10 959	15 961	13 278	11 314	10 046	10 014	5 501
West Midlands	13 511	10 020	10 853	13 830	10 849	9 936	9 932	9 105	5 860
Yorkshire & the Humber	6 780	4 991	4 324	6 175	4 706	4 958	5 211	4 695	3 122
North East & North West	10 638	7 880	6 690	8 791	7 202	7 977	5 705	6 270	3 597
England	**114 435**	**85 670**	**88 511**	**114 805**	**79 288**	**75 452**	**77 328**	**69 821**	**46 938**
South Wales	2 413	1 794	1 529	2 524	1 818	2 008	1 289	1 542	757
North Wales	2 536	1 860	1 576	1 909	1 725	1 392	1 387	1 237	621
Wales	**4 949**	**3 654**	**3 105**	**4 433**	**3 543**	**3 400**	**2 676**	**2 779**	**1 378**
England and Wales	**119 384**	**89 324**	**91 616**	**119 238**	**82 831**	**78 852**	**80 004**	**72 599**	**48 317**

	Crushed Rock								
Region	**1973**	**1977**	**1985**	**1989**	**1993**	**1997**	**2001**	**2005**	**2009**
South West	30 195	19 990	25 850	38 213	29 193	22 945	26 518	22 238	17 206
South East, London, East of England	1 961	1 611	2 126	3 820	1 759	2 299	3 053	1 724	1 583
East Midlands	21 569	16 451	21 508	33 651	31 741	31 475	31 254	28 793	21 421
West Midlands	10 428	7 960	8 317	12 804	8 402	6 456	5 497	4 516	2 639
Yorkshire & the Humber	12 033	10 066	9 610	16 936	13 867	13 157	12 701	11 964	7 240
North East & North West	17 151	15 274	15 717	21 345	21 110	19 523	16 630	14 301	9 225
England	**93 337**	**71 352**	**83 128**	**126 769**	**106 072**	**95 855**	**95 653**	**83 535**	**59 314**
South Wales	10 182	10 306	9 532	13 137	14 739	12 912	10 021	10 873	8 185
North Wales	6 247	4 110	6 959	10 497	8 044	7 549	7 198	5 663	3 245
Wales	**16 429**	**14 416**	**16 491**	**23 634**	**22 783**	**20 461**	**17 219**	**16 536**	**11 430**
England and Wales	**109 766**	**85 768**	**99 619**	**150 403**	**128 855**	**116 316**	**112 872**	**100 071**	**70 744**

	Total Primary Aggregates								
Region	**1973**	**1977**	**1985**	**1989**	**1993**	**1997**	**2001**	**2005**	**2009**
South West	38 857	25 499	32 230	45 916	33 798	28 037	32 309	27 501	20 844
South East, London, East of England	62 621	48 342	51 431	66 165	40 407	38 474	43 696	36 197	26 803
East Midlands	35 753	26 990	32 467	49 612	45 019	42 789	41 300	38 807	26 922
West Midlands	23 939	17 980	19 170	26 634	19 251	16 392	15 429	13 621	8 500
Yorkshire & the Humber	18 813	15 057	13 934	23 111	18 573	18 115	17 912	16 659	10 362
North East & North West	27 789	23 154	22 407	30 136	28 312	27 500	22 335	20 570	12 823
England	**207 772**	**157 022**	**171 639**	**241 574**	**185 360**	**171 307**	**172 981**	**153 356**	**106 253**
South Wales	12 595	12 100	11 061	15 661	16 557	14 920	11 310	12 416	8 942
North Wales	8 783	5 970	8 535	12 406	9 769	8 941	8 585	6 899	3 866
Wales	**21 378**	**18 070**	**19 596**	**28 067**	**26 326**	**23 861**	**19 895**	**19 315**	**12 808**
England and Wales	**229 150**	**175 092**	**191 235**	**269 641**	**211 686**	**195 168**	**192 876**	**172 671**	**119 061**

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

Thousand tonnes

	Sand and Gravel – Land-Won and Marine Dredged								
Region	**1973**	**1977**	**1985**	**1989**	**1993**	**1997**	**2001**	**2005**	**2009**
South West	8 796	6 330	7 304	8 994	5 415	5 498	6 263	5 803	3 471
South East, London, East of England	61 447	46 330	48 488	62 211	38 597	32 272	40 191	32 858	24 411
East Midlands	11 115	7 973	8 889	13 145	9 944	8 559	8 703	9 275	5 569
West Midlands	11 507	8 854	9 820	12 527	10 519	9 015	9 564	8 149	5 444
Yorkshire & the Humber	7 697	6 279	5 327	7 938	6 646	6 458	5 614	6 238	3 214
North East & North West	13 409	9 951	7 551	10 328	8 444	8 691	6 889	6 247	3 926
England	**113 971**	**85 717**	**87 379**	**115 143**	**79 565**	**70 493**	**77 225**	**68 571**	**45 035**
South Wales	2 755	1 890	1 689	2 636	1 934	1 963	1 198	1 628	724
North Wales	n.a.	1 254	957	1 450	1 226	900	977	811	544
Wales	**n.a.**	**3 144**	**2 646**	**4 086**	**3 160**	**2 863**	**2 175**	**2 439**	**1 268**
England and Wales	**n.a.**	**88 861**	**90 025**	**119 229**	**82 725**	**73 356**	**79 399**	**71 010**	**47 303**
	Crushed Rock								
Region	**1973**	**1977**	**1985**	**1989**	**1993**	**1997**	**2001**	**2005**	**2009**
South West	22 156	13 537	16 775	25 821	21 697	14 763	19 140	17 197	12 238
South East, London, East of England	12 406	9 193	13 335	24 608	15 294	14 579	22 736	17 404	13 745
East Midlands	10 979	9 456	12 538	18 598	17 232	15 568	14 448	13 002	10 613
West Midlands	11 406	8 577	10 265	16 376	11 297	8 419	10 475	9 677	5 040
Yorkshire & the Humber	12 455	10 292	9 103	16 790	14 311	12 848	12 793	11 511	7 779
North East & North West	23 955	21 655	22 891	32 500	29 718	28 221	25 450	22 499	13 821
England	**93 357**	**72 710**	**84 907**	**134 693**	**109 549**	**94 398**	**105 042**	**91 289**	**63 236**
South Wales	10 009	9 621	8 401	12 426	13 619	10 103	8 284	8 537	5 886
North Wales	n.a.	2 233	4 092	5 660	4 615	2 733	3 663	2 520	2 694
Wales	**n.a.**	**11 854**	**12 493**	**18 086**	**18 234**	**12 836**	**11 947**	**11 057**	**8 580**
England and Wales	**n.a.**	**84 564**	**97 400**	**152 779**	**127 783**	**107 234**	**116 990**	**102 346**	**71 816**
	Total Primary Aggregates								
Region	**1973**	**1977**	**1985**	**1989**	**1993**	**1997**	**2001**	**2005**	**2009**
South West	30 952	19 867	24 079	34 815	27 112	20 261	25 403	22 999	15 710
South East, London, East of England	73 853	55 523	61 823	86 819	53 891	46 851	62 927	50 263	38 155
East Midlands	22 094	17 429	21 427	31 743	27 176	24 127	23 151	22 277	16 183
West Midlands	22 913	17 431	20 085	28 903	21 816	17 434	20 039	17 827	10 484
Yorkshire & the Humber	20 152	16 571	14 430	24 728	20 957	19 306	18 407	17 749	10 993
North East & North West	37 364	31 606	30 442	42 828	38 162	36 912	32 339	28 746	17 747
England	**207 328**	**158 427**	**172 286**	**249 836**	**189 114**	**164 891**	**182 267**	**159 860**	**109 271**
South Wales	12 764	11 511	10 090	15 062	15 553	12 066	9 482	10 165	6 611
North Wales	n.a.	3 487	5 049	7 110	5 841	3 633	4 640	3 331	3 238
Wales	**n.a.**	**14 998**	**15 139**	**22 172**	**21 394**	**15 699**	**14 122**	**13 496**	**9 848**
England and Wales	**n.a.**	**173 425**	**187 425**	**272 008**	**210 508**	**180 590**	**196 389**	**173 356**	**119 120**

1. n.a. - not available.

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

Million tonnes

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

					Crushed Rock				
Region	**1973**	**1977**	**1985**	**1989**	**1993**	**1997**	**2001**	**2005**	**2009**
South West	1 788	1 842	1 089	1 393	1 310	1 435	1 386	920	868
South East, London, East of England	n.a.[1]	n.a.	31	42	71	57	88	62	62
East Midlands	1 733	1 543	1 773	1 896	1 957	2 091	2 166	1 375	1 303
West Midlands	228	267	241	235	216	465	309	306	312
Yorkshire & the Humber	522	n.a.	257	413	531	550	471	347	301
North East & North West	1 162	1 011	809	717	1 002	705	605	545	544
England	**5 433**	**n.a.**	**4 200**	**4 696**	**5 087**	**5 303**	**5 023**	**3 556**	**3 391**
South Wales	656	n.a.	492	419	581	651	648	499	419
North Wales	619	n.a.	1 117	772	433	399	505	205	172
Wales	**1 275**	**n.a.**	**1 609**	**1 191**	**1 014**	**1 050**	**1 153**	**705**	**591**
England and Wales	**6 708**	**n.a.**	**5 809**	**5 887**	**6 101**	**6 353**	**6 176**	**4 260**	**3 982**

					Total Primary Aggregates				
Region	**1973**	**1977**	**1985**	**1989**	**1993**	**1997**	**2001**	**2005**	**2009**
South West	1 941	2 013	1 161	1 465	1 393	1 509	1 436	971	909
South East, London, East of England	n.a.	n.a.	408	405	476	416	418	312	291
East Midlands	1 908	1 690	1 916	2 045	2 087	2 217	2 265	1 452	1 384
West Midlands	416	423	381	367	356	631	453	433	415
Yorkshire & the Humber	588	n.a.	299	467	568	608	522	389	335
North East & North West	1 263	1 077	883	791	1 102	803	684	601	601
England	**n.a.**	**n.a.**	**5 048**	**5 540**	**5 982**	**6 184**	**5 776**	**4 159**	**3 935**
South Wales	665	n.a.	494	419	591	665	655	502	421
North Wales	647	n.a.	1 137	788	453	425	528	220	192
Wales	**1 312**	**n.a.**	**1 631**	**1 207**	**1 044**	**1 090**	**1 184**	**723**	**612**
England and Wales	**n.a.**	**n.a.**	**6 679**	**6 747**	**7 026**	**7 274**	**7 960**	**4 882**	**4 547**

1 n.a. - not available.
2. n.a.[1] - not available but assumed to be negligible.
3. Reserve figures for 2005 and 2009 are not directly comparable to earlier years. From 2005 ‘reserves’ in dormant sites and for non-aggregate uses were excluded.

Table E1: Comparison of sales of primary aggregates - 2001, 2005 and 2009

Thousand tonnes

Sand and Gravel – Land-Won and Marine Dredged			
Region	**2001**	**2005**	**2009**
South West	5 791	5 264	3 638
South East	19 669	15 526	10 992
London	4 562	5 073	4 239
East of England	16 412	13 875	9 989
East Midlands	10 046	10 014	5 501
West Midlands	9 932	9 105	5 860
North West	3 544	3 770	2 276
Yorkshire & the Humber	5 211	4 695	3 122
North East	2 162	2 500	1 321
England	**77 328**	**69 821**	**46 938**
South Wales	1 289	1 542	757
North Wales	1 387	1 237	621
Wales	**2 676**	**2 779**	**1 378**
England and Wales	**80 004**	**72 599**	**48 317**
Crushed Rock			
Region	**2001**	**2005**	**2009**
South West	26 518	22 238	17 206
South East	2 398	1 238	1 294
London			
East of England	655	486	289
East Midlands	31 254	28 793	21 421
West Midlands	5 497	4 516	2 639
North West	10 034	8 644	5 897
Yorkshire & the Humber	12 701	11 964	7 240
North East	6 596	5 657	3 328
England	**95 653**	**83 535**	**59 314**
South Wales	10 021	10 873	8 185
North Wales	7 198	5 663	3 245
Wales	**17 219**	**16 536**	**11 430**
England and Wales	**112 872**	**100 071**	**70 744**
Total Primary Aggregates			
Region	**2001**	**2005**	**2009**
South West	32 309	27 501	20 844
South East	22 067	16 763	12 286
London	4 562	5 073	4 239
East of England	17 066	14 361	10 278
East Midlands	41 300	38 807	26 922
West Midlands	15 429	13 621	8 500
North West	13 578	12 413	8 174
Yorkshire & the Humber	17 913	16 659	10 362
North East	8 758	8 157	4 649
England	**172 981**	**153 356**	**106 253**
South Wales	11 310	12 416	8 942
North Wales	8 585	6 899	3 866
Wales	**19 895**	**19 315**	**12 808**
England and Wales	**192 876**	**172 671**	**119 061**

Table E2: Comparison of consumption of primary aggregates – 2001, 2005 and 2009

Thousand tonnes

Sand and Gravel – Land-Won and Marine Dredged			
Region	**2001**	**2005**	**2009**
South West	6 263	5 803	3 471
South East	19 524	13 241	10 380
London	7 110	6 463	5 283
East of England	13 557	13 154	8 748
East Midlands	8 703	9 275	5 569
West Midlands	9 564	8 149	5 444
North West	4 081	3 540	1 967
Yorkshire & the Humber	5 614	6 238	3 214
North East	2 808	2 707	1 959
England	**77 225**	**68 571**	**46 035**
South Wales	1 198	1 628	724
North Wales	977	811	544
Wales	**2 175**	**2 439**	**1 268**
England and Wales	**79 399**	**71 010**	**47 303**
Crushed Rock			
Region	**2001**	**2005**	**2009**
South West	19 140	17 197	12 238
South East	14 603	7 935	5 383
London	2 453	3 892	4 086
East of England	5 680	5 577	4 276
East Midlands	14 448	13 002	10 613
West Midlands	10 475	9 677	5 040
North West	18 058	16 631	10 299
Yorkshire & the Humber	12 793	11 511	7 779
North East	7 392	5 868	3 522
England	**105 042**	**91 289**	**63 236**
South Wales	8 284	8 537	5 886
North Wales	3 663	2 520	2 694
Wales	**11 947**	**11 057**	**8 580**
England and Wales	**116 990**	**102 346**	**71 816**
Total Primary Aggregates			
Region	**2001**	**2005**	**2009**
South West	25 404	22 999	15 710
South East	34 127	21 176	15 762
London	9 563	10 355	9 369
East of England	19 237	18 732	13 024
East Midlands	23 151	22 277	16 183
West Midlands	20 039	17 827	10 484
North West	22 139	20 171	12 266
Yorkshire & the Humber	18 407	17 749	10 993
North East	10 201	8 575	5 481
England	**182 267**	**159 860**	**109 271**
South Wales	9 482	10 165	6 611
North Wales	4 640	3 331	3 238
Wales	**14 122**	**13 496**	**9 848**
England and Wales	**196 389**	**173 356**	**119 120**

Table E3: Comparison of permitted reserves of primary aggregates – 2001, 2005 and 2009

Million tonnes

Sand and Gravel			
Region	**2001**	**2005**	**2009**
South West	50	51	41
South East	142	81	79
London	3	3	2
East of England	185	166	147
East Midlands	99	77	81
West Midlands	144	127	104
North West	58	41	42
Yorkshire & the Humber	51	42	34
North East	21	15	15
England	**752**	**603**	**544**
South Wales	8	3	2
North Wales	23	15	19
Wales	**31**	**18**	**21**
England and Wales	**783**	**622**	**565**
Crushed Rock			
Region	**2001**	**2005**	**2009**
South West	1 386	920	868
South East	73	54	59
London			
East of England	15	8	3
East Midlands	2 166	1 375	1 303
West Midlands	309	306	312
North West	346	302	327
Yorkshire & the Humber	471	347	301
North East	259	244	217
England	**5 023**	**3 556**	**3 391**
South Wales	648	499	419
North Wales	505	205	172
Wales	**1 153**	**705**	**591**
England and Wales	**6 176**	**4 260**	**3 982**
Total Primary Aggregates			
Region	**2001**	**2005**	**2009**
South West	1 436	971	909
South East	214	135	138
London	3	3	2
East of England	200	175	151
East Midlands	2 265	1 452	1 384
West Midlands	453	433	415
North West	404	343	369
Yorkshire & the Humber	521	389	335
North East	280	258	232
England	**5 776**	**4 159**	**3 935**
South Wales	655	502	421
North Wales	528	220	192
Wales	**1 184**	**723**	**612**
England and Wales	**6 960**	**4 882**	**4 547**

1. Reserve figures for 2005 and 2009 are not directly comparable to 2001. From 2005 ‘reserves’ in dormant sites and for non-aggregate uses were excluded.

Communities and Local Government

Aggregate Minerals Survey 2009 for England and Wales

Llywodraeth Cynulliad Cymru
Welsh Assembly Government

FORM A: Quarries producing land-won natural aggregates [1], and Marine Wharves for sand and gravel and crushed rock during 2009

BACKGROUND INFORMATION

The Aggregate Minerals (AM) surveys, based at four-yearly intervals since 1973, 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 for collation at Mineral Planning Authority (MPA), regional and national levels. The most recent survey was for the base year 2005 (AM2005) and the collated results can be viewed and downloaded free from www.mineralsUK.com. This questionnaire relates to aggregates sales, distribution and reserves between January 1 and December 31, 2009. The national collation of this Survey is being undertaken by the British Geological Survey for Communities and Local Government (CLG) and the Welsh Assembly Government. To simplify the Survey the questions have been harmonised with the statutory Annual Minerals Raised Inquiry (AMRI) undertaken on behalf of CLG by the Office for National Statistics.

The results of the AM2009 Survey will be used to monitor policies for the supply of aggregates

CONFIDENTIALITY

All sales and reserves information provided by respondents will be treated as strictly confidential and will not pass beyond the officer who the Chief Planning Officer of the Authority designates to receive and process it. This includes Regional Aggregates Working Party (RAWP) Secretaries. It will not be used unless it is first collated by the officer in such a way that individual company figures cannot be identified or unless consent of the company concerned is first obtained. The collated information may then be used for the purposes of the work of the RAWPs or for mineral planning purposes by the Authority.

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

MPA contact and address:

Please return the completed form no later than 30th June 2010

[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.

BGS HELPLINE: If you have any queries regarding this form please call

Mrs Naomi Idoine 0115 936 3169

SITE DETAILS

SD1	Company	
SD2	Quarry / wharf name	
SD3	Address	
SD4		
SD5	Town	
SD6	County	
SD7	Postcode	
SD8	Telephone	
SD9	Fax	
SD10	Email of person responsible for completing the form	
	Name of person responsible for filling in form	
	Date	Tel:

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)

- Quarry (1) ☐
- Marine wharf (2) ☐

TM2 Association status: *(please tick relevant box(es))*

- Mineral Products Association member ☐
- British Aggregates Association member ☐

TM3 Status of quarry / wharf / other site: *(please tick relevant box)*

- **Active:** In production, including from stockpiles, for some time during 2009 ☐
- **Inactive:** Worked in the past and still containing permitted reserves [Complete only Question 1 for permitted reserves] (3) ☐
- **Inactive:** Planning permission received, but yet to be worked [Complete only Question 1 for permitted reserves] ☐
- **Dormant:** As identified under the Environment Act 1995 (3) [Complete only Question 1 for permitted reserves] ☐
- **Closed** and containing no workable permitted reserves [Complete only site details] ☐

TM4 Mineral type: *(please tick relevant box(es))*

- ☐ Sand
- ☐ Sand and Gravel
- ☐ Igneous rock (including metamorphic)
- ☐ Limestone / Dolomite
- ☐ Sandstone (includes greywacke, gritstone and quartzite)
- ☐ Chalk
- ☐ Ironstone
- ☐ China clay aggregate (sand or 'stent') (4)
- ☐ Ball clay aggregate (sand) (4)
- ☐ Slate waste sold as aggregate (4)
- ☐ Colliery spoil sold as aggregate (4)
- ☐ 'Clay' and 'shale' sold as aggregate (4)

To be completed by MPA:

MPA1	MPA name	
MPA2	RAWP region	

NGR1	National Grid Reference (of centre of working, e.g. NG 456 789)			
		Code	Easting	Northing

INFORMATION ABOUT THE SITE

DS1	Please tick here if the site is a borrow pit	☐
DS2	Please tick here if the site has received planning permission for an extension in 2009	☐
DS3	Please tick here if this is a new quarry or wharf granted planning permission in 2009	☐

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:

DS4	National Park (including The Broads and The New Forest)	☐
DS5	AONB	☐
DS6	SSSI/NNR	☐
DS7	SAC/SPA	☐
DS8	Green Belt	☐

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 2009. 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 and 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	a		
1.2	Other sand (including building and asphalting sand)	b		
1.3	Total sand (a+b)[1]			
1.4	Total gravel[1]			
1.5	Total sand and gravel undifferentiated, where not included above			
1.6	*Estimated % of total reserves allocated for non-aggregate use* [2]			%

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

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 - 2.1.9 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 on sales).

2.1.3 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).

2.1.9 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.

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

Sand for aggregate use

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

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	
2.1.8	**Total for all aggregate use [T1]**	

Sand and Gravel for non-aggregate uses

		Tonnes
2.1.9	**Total for all non-aggregate uses**	

2.1.10 **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	
Norway	
Other countries	
Unknown	
Total tonnage	

2. SALES BY PRODUCT

2.2 Crushed Rock

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

Select mineral type: *(please tick box)*

- ☐ Igneous rock (including metamorphic)
- ☐ Limestone / Dolomite
- ☐ Sandstone
- ☐ Chalk
- ☐ Ironstone
- ☐ China clay 'stent'
- ☐ Slate waste
- ☐ Colliery spoil (minestone)
- ☐ 'Clay' and 'shale' for construction

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) sold as aggregate.
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 on sales).
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.
2.2.11	Building stone includes dimension, ornamental, monumental and garden stone.
2.2.13/ 2.2.14	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.
2.2.14	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	
2.2.10	**Total for aggregate use [T2]**	

2.2 Crushed Rock (continued...)

Non-aggregate uses

		Tonnes
2.2.11	Building stone (excluding reconstituted stone)	
2.2.12	Cement manufacture	
2.2.13	Flux in iron and steel manufacture	
2.2.14	All other industrial uses	
2.2.15	Agricultural use on the land and horticulture	
2.2.16	**Total for all non-aggregate uses**	

2.2.17 **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 (reported in Q2.2.10 [T2]) 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.**

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 2009 by **transport method** and **area** for aggregates excavated and / or sold from the site.

Aggregate sales should equal total reported in either questions 2.1.8 [T1] for sand and gravel or 2.2.10 [T2] for crushed rock.

Principal Mode(s) of Transport - An estimate by % (which totals to 100% across road, rail and water) is acceptable if precise sales are not known. Please indicate whether **tonnes or percent**. Include only the principal mode of transport.

(1) Where all deliveries are by road just tick

For a map of the Sub-Regions please see map on page 11.

		Tonnes		Tonnes or percent (delete as appropriate)			
		Sales of aggregate		Modes of transport			
Sub-Region		**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						
NWE3	Greater Manchester, Merseyside, Halton & Warrington						
NWE4	Lancashire						
NWE5	Unknown but somewhere in the North West						

CONTINUED OVERLEAF....

3. SALES BY DESTINATION (continued…)

		Tonnes		Tonnes or percent (delete as appropriate)			
		Sales of aggregate		Modes of transport			
Sub-Region		**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	Avon						South West
SWE2	Cornwall						
SWE3	Devon						
SWE4	Dorset						
SWE5	Gloucestershire						
SWE6	Somerset						
SWE7	Wiltshire						
SWE8	Unknown but somewhere in the South West						
WMD1	Herefordshire						West Midlands
WMD2	Shropshire						
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….

3. SALES BY DESTINATION (continued…)

		Tonnes		Tonnes or percent (delete as appropriate)			
		Sales of aggregate		Modes of transport			
Sub-Region		**Sand and gravel**	**Crushed rock**	**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						
3.50	**Total tonnage** (totals should equal total in either question 2.1 [T1] or 2.2 [T2])						

Aggregate Minerals Survey 2009 for England and Wales

Llywodraeth Cynulliad Cymru
Welsh Assembly Government

FORM B: Mineral Sites Granted[1], Refused[2], Withdrawn[3] and Awaiting[4] Planning Permission, 2006-2009

To be completed by Mineral Planning Authority (MPA)

MPA name					
Completed by					
Date		Email		Tel	
RAWP					

Please read Guidance Notes at the bottom before completing the form.

Completed forms should be returned by email to Naomi Idoine (nkay@bgs.ac.uk), and copied to the relevant RAWP Secretary for collation.

Please return the completed form no later than 30th June 2010.

Sites granted[1] planning permission for aggregates extraction, 2006-2009

Year		Site Name	Mineral (5)	NGR (6)	Site Type (7)	Tonnes	Nat. Park (8)	AONB (8)	SSSI (8)	SPA / SAC (8)	Green Belt (8)
2006	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
2007	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
2008	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
2009	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										

Please enter 1 in appropriate box(es)

Sites refused[2] planning permission for aggregates extraction, 2006-2009

Year		Site Name	Mineral (5)	NGR (6)	Site Type (7)	Tonnes	Nat. Park (8)	AONB (8)	SSSI (8)	SPA / SAC (8)	Green Belt (8)
2006	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
2007	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
2008	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
2009	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										

Please enter 1 in appropriate box(es)

Sites whose planning permission application for aggregates extraction has been withdrawn[3], 2006-2009

Year		Site Name	Mineral (5)	NGR (6)	Site Type (7)	Tonnes	Nat. Park (8)	AONB (8)	SSSI (8)	SPA / SAC (8)	Green Belt (8)
2006	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
2007	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
2008	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
2009	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										

Please enter 1 in appropriate box(es)

Sites currently awaiting[4] decision on planning permission for aggregates extraction at 31/12/2009

Year		Site Name	Mineral (5)	NGR (6)	Site Type (7)	Tonnes	Nat. Park (8)	AONB (8)	SSSI (8)	SPA / SAC (8)	Green Belt (8)
2006	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
2007	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
2008	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
2009	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										

Please enter 1 in appropriate box(es)

GUIDANCE NOTES - please read these notes before completing the form

1. Subject to all legal (including Section 106 (S106)) Agreements being made. For the calendar year periods 1/1/2006 to 31/12/2009 (inclusive).
2. If a refusal (e.g. in 2006) goes to appeal and is rejected (e.g. in 2008) only enter for the final rejection.
3. Only include sites where a formal application for planning permission has been made and then withdrawn. Enter only year withdrawn.
   If a withdrawn application is re-submitted and approved / refused only enter for the final approval / refusal.
4. Only include sites where a complete application for planning permission has been received but no decision has yet to be reached. This includes planning permissions awaiting a Section 106 (S106) Agreement. Enter for the year complete application received.
5. Mineral. Please choose from the following list:
   - Igneous rock (including metamorphic rock)
   - Limestone / Dolomite
   - Sandstone (includes greywacke, gritstone and quartzite)
   - Chalk
   - Ironstone
   - Sand
   - Sand and gravel
   - Slate
   - Shale (for construction use only)
6. National Grid Reference (NGR) - of centre of site e.g. NG 456 789
7. Site type. Choose from:
   - Extension - lateral/vertical
   - Borrow pit
   - New quarry (excluding borrow pit)

   Excludes changes in permission for an increase in output and / or extension of time where these do not lead to an increase / decrease in reserves.
8. Please enter 1 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.
9. If required insert extra rows. To do this select an entire row by clicking on the row number below where you wish to insert the new row. Then click on Insert (on the menu bar) followed by Rows.
10. Questions can be directed to Naomi Idoine at the British Geological Survey.
    Tel: 0115 936 3169 Email: nkay@bgs.ac.uk

MAP OF AM2009 SUB-REGIONS AND THE AUTHORITIES THEY INCLUDE

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 Susssex 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

Regional Aggregate Working Party (RAWP) Regions
NEA North East
NWE North West
YUH 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

RAWP Region
Sub-Region
Mineral Planning Authority

Appendix G: Glossary of terms and abbreviations

Active/Inactive	Sites are described as *active* where material was produced at any time during 2009 and as *inactive* 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' now replaces the term 'dormant' used in previous surveys as the term 'dormant' has 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 for the purposes of preserving and enhancing their natural beauty.

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 mineral planning authority 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 lopment 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 some 120 quarry operators, who together account for more then 90% of the quarried aggregate materials in Great Britain.
Mt	Million tonnes (i.e. Megatonne).
National Park	National Parks are designated under the National Parks and Access to the Countryside Act 1949. 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. The New Forest obtained its status as a National Park in April 2006.
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.
AWP	Aggregate Working Party.
SAC	Special Areas of Conservation designated in accordance with European Directive 92/43/EEC, adopted 21st May 1992, to provide measures to conserve natural habitats and associated wild fauna and flora. The directive is commonly known as the 'Habitats Directive.' Special Areas of Conservation, together with Special Protection Areas (see below), will form part of 'Natura 2000,' a European wide network of areas of special nature conservation interest. Special Areas of Conservation are also Sites of Special Scientific Interest.
SPA	Special Protection Areas designated in accordance with European Directive 79/409/EEC, adopted 2nd April 1979, to provide measures to conserve wild birds, their eggs and their habitats. This directive is commonly known as the 'Birds Directive.' Special Protection Areas are also Sites of Special Scientific Interest.
SSSI	Site of Special Scientific Interest designated by English Nature (now part of Natural England) or the Countryside Council for 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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Survey of waste arisings in Wales during 2005: the arisings and use of construction and demolition waste, excavation waste, quarry waste and dredging waste. Faber Maunsell for the Welsh Assembly Government. 2007.

Construction, demolition and excavation waste arisings, use and disposal for England 2008. Waste & Resources Action Programme (WRAP). 2010.

Each Aggregate Working Party produces Annual Monitoring Survey reports. The results of the Aggregate Minerals 2009 Survey will also appear in the aggregate working party Annual Reports for 2009. These are available from the aggregate working party Technical Secretaries (see Appendix I).

Appendix I: Aggregate working parties secretaries

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Appendix J: Members of the Aggregate Minerals 2009 collation steering group

Department for communities and local government

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Lucy Yates
Planning Environment Division

Andrew Lipinski
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Yousuf Rafique
Housing Supply and Planning Policy

Welsh assembly government

Joanne Smith
Environmental Planning Branch

Awps and planning officers society

Chris Waite
Secretary, London and the South East AWP

Steve Bool
Secretary, South Wales AWP

Anne Mosquera
Secretary, North West AWP

Kevin Tipple
North East AWP

Lonek Wojtulewicz
Chairman, East Midlands AWP/Planning Officers Society

Paul Wilcox
Chairman, West Midlands AWP/Planning Officers Society

Mineral products association

Jerry McLaughlin
Mineral Products Association

British aggregates association

Peter Huxtable
British Aggregates Association

Environmental organisations

Hannah Townley
Natural England

Appendix K: Aggregate Minerals 2009 project team

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Tel. 0115 9363494

Dr Joseph Mankelow - Project Leader

Chloe Wrighton - Minerals Planning Geologist

Marcus Sen - Database Design and Development

Naomi Idoine - Data Entry and Administration.

Paul Lusty - Quality Assurance

Appendix L: Mineral planning authorities within Aggregate Working Party regions in 2009

REGION	Mineral Planning Authority
SOUTH WEST AWP	Bath and North East Somerset Council Bournemouth Borough Council Bristol City Council Cornwall County Council Dartmoor National Park Devon County Council Dorset County Council Exmoor National Park Gloucestershire County Council Isles of Scilly North Somerset Council Plymouth City Council Poole Borough Council Somerset County Council South Gloucestershire Council Swindon Borough Council Torbay Council Wiltshire County Council
SOUTH EAST AWP	Bracknell Forest District Council Brighton and Hove 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 Southampton City Council Surrey County Council West Berkshire District Council West Sussex County Council Windsor & Maidenhead District Council Wokingham District Council
LONDON AWP	London Borough of Barking & 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 London Borough of Southwark London Borough of Sutton London Borough of Tower Hamlets London Borough of Waltham Forest London Borough of Wandsworth London Borough of Westminster London, City of Royal Borough of Kingston
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 Southend-on-Sea Borough Council Suffolk County Council Thurrock Borough 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 CC DC
WEST MIDLANDS AWP	Birmingham City Council Coventry City Council Dudley Metropolitan Borough Council Herefordshire Council Sandwell Metropolitan Borough Council Shropshire County Council Solihull Metropolitan Borough Council Staffordshire County Council Stoke-on-Trent City Council Telford and Wrekin Council Walsall Metropolitan Borough Council Warwickshire County Council Wolverhampton Metropolitan Borough 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

REGION	Mineral Planning Authority
NORTH WEST AWP CONTINUED	Lancashire County Council 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 Metropolitan Borough Council
YORKSHIRE & THE HUMBER AWP	Barnsley Metropolitan Borough Council Bradford Metropolitan Borough Council Calderdale Metropolitan Borough Council City of York Council Doncaster Metropolitan Borough Council East Riding of Yorkshire Council Kingston upon Hull City Council Kirklees Metropolitan Borough 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 Borough Council Yorkshire Dales National Park
NORTH EAST AWP	City of Sunderland Council Darlington Borough Council Durham County Council Gateshead Metropolitan Borough Council Hartlepool Borough Council Middlesbrough Borough Council Newcastle City Council North Tyneside Council Northumberland County Council Northumberland National Park Redcar and Cleveland BC South Tyneside Metropolitan Borough Council Stockton-on-Tees Metropolitan Borough Council
SOUTH WALES AWP	Blaenau Gwent Brecon Beacons National Park Bridgend Caerphilly Cardiff (City of) Carmarthenshire Ceredigion Merthyr Tydfil Monmouthshire Neath Port Talbot Newport Pembrokeshire Pembrokeshire Coast National Park Powys Rhondda, Cynon, Taf (Taff) Swansea (City of) Torfaen

REGION	Mineral Planning Authority
SOUTH WALES AWP CONTINUED	Vale of Glamorgan
NORTH WALES AWP	Conwy (Aberconwy & Colwyn) Denbighshire Flintshire Gwynedd Isle of Anglesey Snowdonia National Park Wrexham