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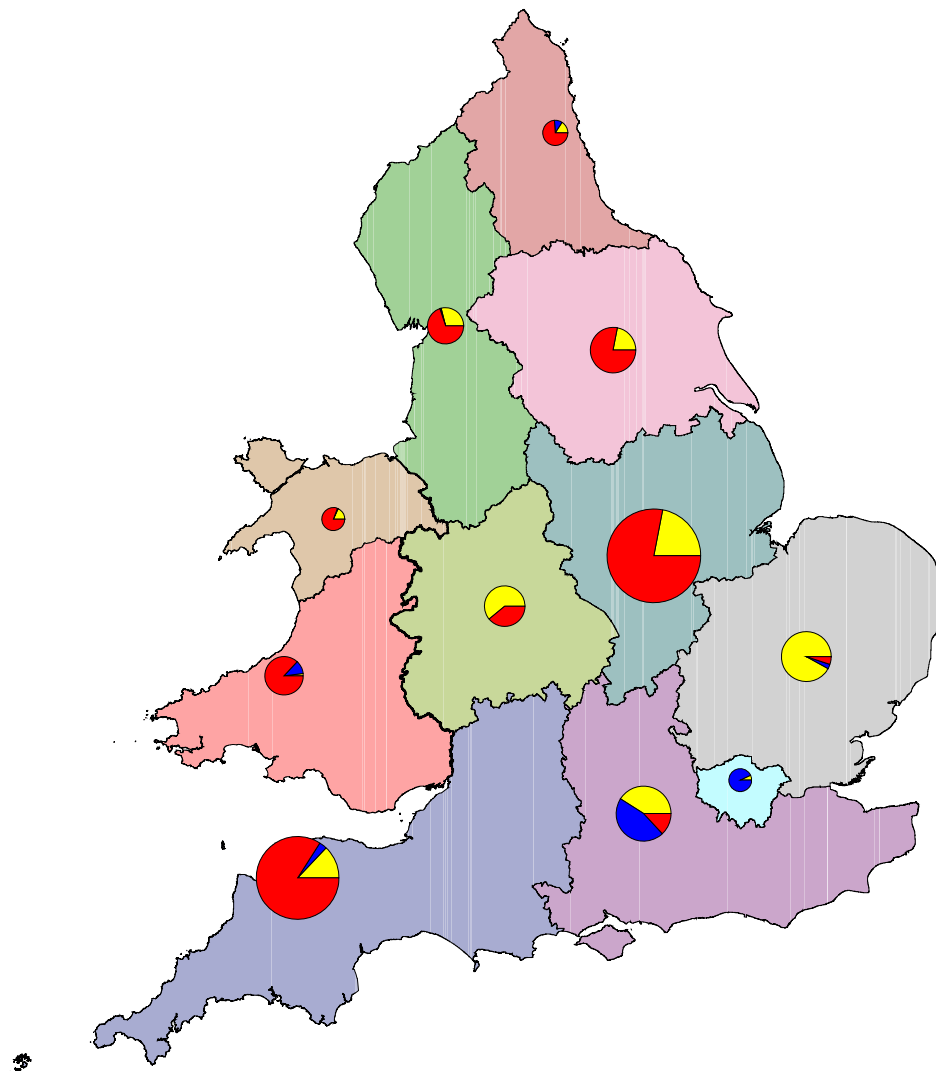


**Department for
Communities and
Local Government**



**Llywodraeth Cymru
Welsh Government**

Collation of the results of the 2014 Aggregate Minerals survey for England and Wales



British Geological Survey
Commissioned Report OR/16/005

**Collation of the results of the 2014 Aggregate Minerals survey
for England and Wales**

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Editor

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TABLE OF CONTENTS

Page

INTRODUCTION	Policy Background – AM2014 Survey – Confidentiality – Survey Coverage – Acknowledgements	1
COMMENTARY	National Overview – Sales of Primary Aggregates – End Uses – Inter-Regional Flows – Consumption – Mode of Transport – Reserves – Environmentally Designated Areas – Alternative Aggregates – Planning Permissions and Refusals	8
MAPS		
Map 1	Mineral Planning Authorities and Aggregate Working Party Regions in England, 2014	23
Map 2	Mineral Planning Authorities and Aggregate Working Party Regions in Wales, 2014	24
Map 3	Sub-regions used for AM2014	25
Map 4	Location of active sand and gravel quarries included in the survey	26
Map 5	Location of active crushed rock quarries included in the survey	27
Map 6	Sales of sand and gravel and crushed rock for aggregates, 2014	28
Map 7	Consumption of sand and gravel and crushed rock for aggregates, 2014	29
Map 8	Sand and gravel inter-regional flows, 2014	30
Map 9	Crushed rock inter-regional flows, 2014	31
Map 10	Permitted reserves of primary aggregates in England and Wales – Active and inactive sites, 2014	32
Map 11	Sales and consumption of primary aggregates, 2014	33
FIGURES		
Figure 1	Planning permission expiry dates for active quarries, 2014	34
Figure 2	Planning permission expiry dates for active sand and gravel quarries, 2014	34
Figure 3	Planning permission expiry dates for active crushed rock quarries, 2014	35
TABLES		
1. SALES, CONSUMPTION AND INTER-REGIONAL FLOWS		
Table 1	Comparison of sales and consumption of primary aggregates in 2014	38
Table 2a	Summary of sales of primary aggregates in 2014	39
Table 2b	Summary of consumption of primary aggregates in 2014	40
Table 3	Summary of exports and imports of primary aggregates (land-won and marine) in 2014	41
Table 4a-k	Sales of aggregates and aggregate minerals by region in 2014	42
Table 5a-k	Consumption of primary aggregates by region in 2014	53
Table 6	Summary of sales of primary aggregates (sand and gravel and crushed rock) by major end use in 2014	64
Table 7	Summary of sales of land-won primary aggregates by selected environmental designation in 2014	65
Table 8	Sales of primary aggregates by principal transport method in 2014	66

2. SUB-REGIONAL SALES, FLOWS AND CONSUMPTION

Table 9a-k	Sales of primary aggregates by MPA and principal destination sub-region in 2014	67
Table 10	Imports of primary aggregates by sub-region in 2014	90
Table 11	Consumption of primary aggregates by sub-region in 2014	93

PERMITTED RESERVES

Table 12	Permitted reserves of land-won primary aggregates in active and inactive sites at 31 December 2014	96
Table 13	Permitted reserves of land-won primary aggregates in active and inactive sites by environmental designation at 31 December 2014	97

PLANNING PERMISSIONS AND REFUSALS

Table 14	Total reserves of primary aggregates granted planning permission between 2010 and 2014	98
Table 15	Total quantity of primary aggregates refused planning permission between 2010 and 2014	99
Table 16	Total quantity of primary aggregates currently awaiting planning permission decision between 2010 and 2014	100
Table 17	Total quantity of primary aggregates withdrawn from the planning application process between 2010 and 2014	101
Table 18	Number of active land-won quarries and marine wharves in 2014	102

APPENDICES

APPENDIX A – Sales

Table A1	Sales of land-won sand and gravel by product (end use) in 2014	103
Table A2	Sales of marine-dredged sand and gravel by product (end use) in 2014	104
Table A3	Sales of crushed rock by product (end use) in 2014	105
Table A4	Sales of crushed rock for aggregate use by mineral in 2014	106
Table A5	Sales of crushed rock aggregate for non-aggregate use by mineral in 2014	107

APPENDIX B – Permitted reserves

Table B1	Permitted reserves of land-won primary aggregates at 31 December 2014 by mineral	108
Table B2	Permitted reserves of land-won primary aggregates at 31 December 2014 by environmental designation – Aggregate use	109
Table B3	Permitted reserves of primary aggregate minerals at 31 December 2014 by environmental designation – Non-aggregate use	110
Table B4	Permitted reserves of primary aggregates at 31 December 2014 in dormant sites by environmental designation – Aggregate use	111

APPENDIX C – Planning permissions and refusals

Table C1	Total reserves of sand and gravel granted planning permission between 2010 and 2014 by site type	112
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Table C2	Total quantity of sand and gravel refused planning permission between 2010 and 2014 by site type	113
Table C3	Total quantity of sand and gravel currently awaiting planning permission decision between 2010 and 2014 by site type	114
Table C4	Total quantity of sand and gravel withdrawn from the planning application process between 2010 and 2014 by site type	115
Table C5	Total reserves of crushed rock granted planning permission between 2010 and 2014 by site type	116
Table C6	Total quantity of crushed rock refused planning permission between 2010 and 2014 by site type	117
Table C7	Total quantity of crushed rock currently awaiting planning permission decision between 2010 and 2014 by site type	118
Table C8	Total quantity of crushed rock withdrawn from the planning application process between 2010 and 2014 by site type	119
Table C9	Total reserves of sand and gravel granted planning permission between 2010 and 2014 by environmental designation	120
Table C10	Total quantity of sand and gravel refused planning permission between 2010 and 2014 by environmental designation	121
Table C11	Total quantity of sand and gravel currently awaiting planning permission decision between 2010 and 2014 by environmental designation	122
Table C12	Total quantity of sand and gravel withdrawn from the planning application process between 2010 and 2014 by environmental designation	123
Table C13	Total reserves of crushed rock granted planning permission between 2010 and 2014 by environmental designation	124
Table C14	Total quantity of crushed rock refused planning permission between 2010 and 2014 by environmental designation and	125
Table C15	Total quantity of crushed rock currently awaiting planning application decision between 2010 and 2014 by environmental designation	126
Table C16	Total quantity of crushed rock withdrawn from the planning application process between 2010 and 2014 by environmental designation	127
Table C17	Total quantity of sand and gravel granted, refused, withdrawn or awaiting planning permission between 2010 and 2014 for sites within a development plan allocated area	128
Table C18	Total quantity of crushed rock, refused, withdrawn or awaiting planning permission between 2010 and 2014 for sites within a development plan allocated area	129
APPENDIX D – Comparison with previous AM surveys		
Table D1	Comparison of sales of primary aggregates, 1973, 1977, 1985, 1989, 1993, 1997, 2001, 2005, 2009 and 2014	130
Table D2	Comparison of consumption of primary aggregates, 1973, 1977, 1985, 1989, 1993, 1997, 2001, 2005, 2009 and 2014	131
Table D3	Comparison of permitted reserves of primary aggregates, 1973, 1977, 1985, 1989, 1993, 1997, 2001, 2005, 2009 and 2014	132
APPENDIX E – Comparison with AM2001, AM2005 and AM2009 surveys		
Table E1	Comparison of sales of primary aggregates 2001, 2005, 2009 and 2014	133

Table E2	Comparison of consumption of primary aggregates 2001, 2005, 2009 and 2014	134
Table E3	Comparison of permitted reserves of primary aggregates 2001, 2005, 2009 and 2014	135
APPENDIX F	– Survey Forms A and B	136
APPENDIX G	– Glossary of Terms and Abbreviations	150
APPENDIX H	– Bibliography	153
APPENDIX I	– Aggregate Working Parties' Secretaries	154
APPENDIX J	– Members of the AM2014 National Collation Steering Group	155
APPENDIX K	– AM2014 Project Team	156
APPENDIX L	– Mineral Planning Authorities within Aggregate Working Party Regions in 2014	157

COLLATION OF THE AM2014 SURVEY

1. INTRODUCTION

1.1 Aggregate Minerals (AM) surveys, normally undertaken at four-yearly intervals since 1973, provide an in-depth and up-to-date understanding of national and sub-national sales, inter-regional flows, transportation, consumption and permitted reserves of primary aggregates. The surveys are used to inform the development of minerals policy in respect to the production, movement and consumption of aggregates. The data are made publicly available.

1.2 This report is the collation of the data for primary aggregates for 2014, therefore there has been a five year period between this and the previous survey (AM2009). In addition to presenting information on regional and national sales, consumption, and permitted reserves of primary aggregates, the AM2014 report also presents data on the movement and consumption of primary aggregates by sub-region. Information is also presented on the quantity of aggregate minerals granted and refused planning permission and planning permission applications withdrawn between 2010 and 2014. In addition, information is presented on the quantity of aggregate minerals within planning permission applications submitted between 2010 and 2014 and were awaiting a decision at 31 December 2014.

1.3 The information is presented for England and Wales and for individual regions and was collected from aggregate producers by Mineral Planning Authorities (MPAs) using a standard form (Appendix F). It was subsequently collated at regional level by the relevant Aggregate Working Party Secretary (Appendix I) or the British Geological Survey (BGS)¹ and at national level by the BGS on behalf of the Department for Communities and Local Government (DCLG) and the Welsh Government. Similar information was published by the then Department of the Environment for 1973, 1977, 1985, 1989 and 1993, the Department of the Environment, Transport and the Regions for 1997, the Office of the Deputy Prime Minister for 2001 and the Department for Communities and Local Government and the Welsh Assembly Government for 2005 and 2009 (Appendix H). Comparisons of sales, consumption and permitted reserves for these years and 2014 are provided in Tables D1 to D3.

1.4 The BGS was commissioned in March 2015 by DCLG to design and implement the AM2014 survey and to collate, interpret and report the results. The study was overseen by a Steering Group, which included representatives of DCLG, the Welsh Government, AWP, the Planning Officers' Society and the aggregates industry (Appendix J).

POLICY BACKGROUND

1.5 The key Government objectives and planning policies on minerals in England are set out in the National Planning Policy Framework (2012). *Mineral Planning Policy Wales* (2000) set out the land-use planning policy guidance of the Welsh Government in relation to minerals extraction and development in Wales at the time of the survey. Including all minerals except marine aggregates, it has since been replaced by *Planning policy Wales, chapter 14, Minerals* (2016). Minerals Technical Advice Note 1: *Aggregates* (2004) sets out detailed advice on the mechanisms for delivering policy for land-based aggregates extraction in Wales by MPAs and the aggregates industry.

1.6 The results of the AM2014 Survey will be used:

- to monitor and develop planning policies for the managed supply of aggregates in both England and Wales;
- to inform all stakeholders of the current state of aggregates supply; and
- as a source of contextual data with respect to planning applications for the extraction of aggregates.

AM2014 SURVEY

1.7 The AM2014 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 MPAs in England and Wales for completion and return by operators/owners:

- all active quarries producing land-won primary aggregates at some time during 2014, 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;

¹ The AM2014 survey ran during a period of transition of AWP Secretaries in England. As a result, the BGS undertook regional collations for the East Midlands, West Midlands, South East and London.

- marine wharves at which marine-dredged sand and gravel was landed and processed in 2014; and
- marine wharves at which crushed rock from outside England and Wales was landed in 2014.

1.8 There are 162 authorities in England and 25 in Wales designated as MPAs. However, a number of unitary authorities (London boroughs, metropolitan districts and a few rural authorities) are either totally urban or have no mineral workings for aggregates. Excluding MPAs with no aggregate mineral workings, data were collected for 114 of the remaining authorities. Therefore, all MPAs where aggregates are extracted or landed participated in the survey

1.9 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 for active and inactive sites was over 90% in all Aggregate Working Party regions. Where figures were not forthcoming, and where feasible, estimates may have been made by the MPAs or AWP Secretaries. The proportion of estimates made by the MPAs or AWP Secretaries was very low representing 2.8% of total sales, 4.3% of total reserves and 5.9% of destination data (used to calculate consumption) respectively. The survey results present data for **836** quarries, of which **170** were inactive worked in the past and a further **43** sites which have yet to be worked. Of the 623 active quarries surveyed, 327 were for crushed rock and 296 for land-won sand and gravel. The survey also included 63 wharves at which marine sand and gravel was landed and 25 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.

1.10 AM2014 collected for the first time the current planning permission end-date for all active sites. Figures 1, 2 and 3 summarise this information by commodity and country.

1.11 Sales and distribution data relate to 2014 and the permitted reserves were estimated at 31 December 2014. The information is presented by Aggregate Working Party Area (Maps 1 and 2) using the boundaries that were applicable as at 31 December 2014. The MPAs comprising the separate AWP 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 provided in Tables E1 to E3.

1.12 In all previous AM Surveys, data on the movement of aggregates was collected on the basis of inter-regional flows. For AM2005 the BGS 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 AWP boundaries allowing inter-regional flows to be calculated, as well as more detailed destination information. In order to allow better comparison with the AWP annual monitoring reports, the sub-regions were changed for AM2009 making comparison with the AM2005 survey sub-regional results difficult. AM2014 used the same sub-regions as AM2009 thus allowing comparisons to be made. The sub-regions used for AM2014 are shown on Map 3. The sub-regional survey of sales by destination undertaken for AM2005, AM2009 and AM2014 has enabled a large amount of additional information to be collected, including a more detailed analysis of primary aggregates consumption by sub-region.

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 0.5% to total supply. As in conventional practice, landings of marine sand and gravel are assigned to the MPA in which the wharf is located.

1.14 Form B sought information on the numbers of sites granted or refused planning permission and the numbers of planning permission applications withdrawn during the period 2010 to 2014; the numbers of planning applications awaiting a decision at 31 December 2014; and the quantity of mineral contained within these permissions or applications. Form B was completed by individual MPAs and compiled into a database by BGS. This survey provides valuable information on the extent that permitted reserves of primary aggregates are being supplemented by new permissions and, in combination with the sales data, the extent that reserves are being depleted.

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

1.16 Regional collations of the 2014 survey data will also be published in the AWP Annual Reports. These are available from the AWP Secretaries (see Appendix I). These contain more detailed information, generally at MPA (often County) level. In England, data will also be utilised by MPAs in the production of Local Aggregates Assessments.

CONFIDENTIALITY

1.17 Data relating to an individual quarry are normally considered to be confidential. Any figure disclosed must include at least three companies' interests unless all the parties involved have been contacted and their prior approval obtained in writing, permitting the release of the information. For the purposes of the AM2014 survey, Mineral Products Association members, which account for a major proportion of total sales, relaxed these confidentiality restrictions by providing, via the Association, prior permission for publication of figures where this three company rule would normally apply. This has allowed additional data to be disclosed, particularly for environmental designations. Whilst strongly advising all its members to fully cooperate, the British Aggregates Association was unable to relax the three company rule. Neither association was able to compel its member companies to complete the survey. For non-Mineral Products Association members the normal three company rule has been applied.

SURVEY COVERAGE

1.18 The AM2014 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 MPA, AWP and national level was greatly simplified. Customised Microsoft Access databases were designed and created specifically for the survey to assist the MPAs and AWP Secretaries in undertaking their collations. The regionally collated data provided to the BGS were input into an AM2014 Microsoft Access database to undertake the National Collation.

1.19 The AM2014 survey refers to 'sales' of aggregates. The term relates to material leaving a quarry/wharf as measured at a weighbridge. The term 'sales' is more accurate than 'production' as used in some previous surveys

prior to AM97. However, as weighbridge sales were the 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 higher than for AM2009 (Table 2b). 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 (ONS), through the Annual Minerals Raised Inquiry (AMRI), has collected and published information on extractors’ sales of aggregates within Great Britain on behalf of DCLG. Unlike AM surveys, this has been a statutory survey carried out under the Statistics of Trade Act 1947. The results are published in the Business Monitor PA 1007 *Minerals Extraction in Great Britain*. To simplify the AM2014 survey the questions were generally harmonised with those in AMRI.

1.22 The prime purpose of the two surveys is different. AMRI, which also covers minerals other than aggregates, was designed to provide a consistent time series of commodity data for economic/market analysis. The AM survey aims to provide comprehensive data for monitoring and facilitating aggregates provision at local, regional and national level. The output is used mainly by Government (DCLG and the Welsh Government), MPAs, industry and environmental interest groups. Only AMRI collected information on employment and the value of sales and only AM collects 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 AMRI and AM surveys indicates that AM surveys show somewhat larger totals for aggregate sales. This is believed to be due to a better coverage of sites and also the ability of MPAs to provide estimates for sites which did not provide a survey return. For 2014 the respective totals for England and Wales were; AMRI 129.7 Mt against 137.0 Mt for AM2014. The 2014 AMRI survey,

published on 8 March², is the last to be undertaken. Data on mineral sales at the UK level can still be derived from the annual UK manufacturers' sales of product survey³.

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 MPAs for their collation of the data at the local level and the Secretaries of the AWP for their checking of the provisional survey results. The names and contact addresses for the current AWP Secretaries are given in Appendix I. Particular thanks are also due to Eamon Mythen (AM2014 contract manager) at the Department for Communities and Local Government, and the members of the Steering Group (Appendix J) for their support and guidance.

² <https://www.gov.uk/government/statistics/mineral-extraction-in-great-britain-2014>

³ <https://www.ons.gov.uk/surveys/informationforbusinesses/businesssurveys/ukmanufacturerssalesbyproductprodcom>

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 MPA and sub-region, imports by sub-region and consumption by sub-region. Permitted reserves of aggregates at 31 December 2014 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 16 and 17. More detailed information on sales, reserves, and planning permissions/refusals are presented in Appendices A to C, respectively. A comparison of sales, consumption and permitted reserves of primary aggregates with all previous AM surveys is given in Appendix D and, in relation to the modern regions used for all the surveys since AM2001, Appendix E.

SALES

2.2 Total sales of primary aggregates produced in England and Wales, including marine-dredged sand and gravel, but not imports of aggregates from outside England and Wales, were **137.0 Mt** in 2014 of which **90%** was produced in England. **Total sales increased by about 15% between 2009 (119.1 Mt) and 2014 (137.0 Mt)**, with marine-dredged sand and gravel showing the largest increase (28%) from **11.0 Mt** in 2009 to **14.0 Mt** in 2014. Sales of land-won sand and gravel increased (8%) from **37.4 Mt** in 2009 to **40.5 Mt** in 2014. Sales of crushed rock increased (17%) from **70.7 Mt** in 2009 to **82.5 Mt** in 2014. In 2014 total sales of primary aggregates were down **133 Mt** on the largest output in previous AM surveys in **1989** when total primary aggregate sales were **269.6 Mt**.

2.3 Primary aggregates sales in England and Wales for 2014, comprised **29.6% land-won and 10.2% marine-dredged sand and gravel, with crushed rock making up the remaining 60.2%**. Limestone/dolomite remained by far the most important source of crushed rock aggregate, accounting for 66% of the total, followed by igneous rock (25%), sandstone (9%), and minor chalk and ironstone (<0.5%). **Marine sand and gravel**

supplied about 25% of total sand and gravel output in England, compared with 49% in Wales.

2.4 National Parks and AONBs cover 23.8% of the land area of England and 23.4% of Wales. **In England and Wales 9.3% and 4.8% of total crushed rock sales were supplied from National Parks and AONBs respectively, and 0.5% and 3.3%, respectively for land-won sand and gravel.**

CONSUMPTION

2.5 The AM surveys are the only comprehensive measurement of apparent consumption of primary aggregates (see glossary - aggregate consumption) by region (and now sub-region). **Total apparent consumption** of primary aggregates was **137.4 Mt** in 2014, of which **127.5 Mt** was used in England and **9.9 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 **2.6 Mt in 2014**. 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 **140.1 Mt** in 2014.

NATIONAL FLOWS

2.6 **England was a net importer of primary aggregates (4.5 Mt) and Wales a net exporter (4.2 Mt).** Total exports from Wales comprised 4.3 Mt of crushed rock and 0.2 Mt of sand and gravel. Imports into Wales were 0.2 Mt of crushed rock and 0.1 Mt sand and gravel. **Some 3.2 Mt (or 2.4% 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 France and Northern Ireland. Total imports from outside England and Wales were greater than in 2009 (2.5 Mt).

2.7 Total exports of land-won primary aggregates from England and Wales were 0.2 Mt in 2014. About 3.0 Mt of marine sand and gravel dredged from the UK Continental Shelf were landed at foreign ports in 2014 (Source: The Crown Estate). With exports from England and Wales to Scotland and overseas matching corresponding imports, together the countries are no longer a net exporter of aggregates. A further 2.4 Mt of marine sand and gravel were used for contract fill and beach nourishment (Source: The

Crown Estate). Landings of marine sand and gravel at foreign ports and that used for contract fill and beach nourishment are not covered by AM surveys.

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 2014 were **3 906 Mt**. Crushed rock accounted for **88% (3 448 Mt)** and sand and gravel the remaining **12% (457 Mt)**. Of total permitted reserves, 81% were in active sites and 82% in England.

2.9 Sites classified as ‘Dormant’ under the terms of the Planning & Compensation Act 1991 and the Environment Act 1995 contained **421 Mt**. These tonnages are separately identified in Table 12 but are excluded from the totals. Dormant sites cannot be worked until new schemes of conditions have been determined and, therefore, do not contain ‘permitted reserves’. The data presented on dormant sites cannot be considered complete as some regions have dormant sites where the volume of aggregates contained is not known and, therefore, could not be supplied by the MPA.

2.10 Total permitted reserves of sand and gravel for non-aggregate use (mainly silica sand) were 31.6 Mt in 2014. Total permitted reserves of crushed rock for non-aggregate use were 608.5 Mt of which 89% 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 AM survey since 1973 and, in relation to the modern regions used for the AM2001 survey onwards, Table E1. National and regional sales are also shown on Map 6.

REGIONAL SALES

3.2 The **East Midlands** continued to be by far the largest producing region at **30.4 Mt, equivalent to 25%** of total primary **land-won** aggregate sales in England and Wales. The **South West (24.7 Mt, 20%)** was the second largest source of land-won primary aggregates. Excluding London, North Wales (5.1 Mt) and the North East (5.0 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 (23.8 Mt, 29%), slightly larger than the South West (21.4 Mt, 26%),** and the **South East** for the highest proportion of **sand and gravel (including marine-dredged) sales (12.5 Mt, 23%),** only slightly higher than the East of England (11.9 Mt, 22%). Marine-dredged sand and gravel as a proportion of regional sand and gravel sales was however 53% (6.6 Mt) in the South East compared with 3% (0.4 Mt) in the East of England.

3.4 Greater London (**0.4 Mt**), the North East (**0.9 Mt**), North Wales (**0.9 Mt**) and South Wales (**0.2 Mt**) produced the smallest amounts of land-won sand and gravel. Conversely, East of England (**0.6 Mt**) and the South East (**1.8 Mt**) were the smallest crushed rock producers. There is no crushed rock production in London. The balance between sand and gravel, and crushed rock production largely reflects the underlying geology and hence the aggregate resources within these areas. Regions with large crushed rock resources and permitted reserves (East Midlands and South West) and which are relatively close to major markets, continue to contribute substantially to the high levels of demand in more populated regions, notably London and the South East (where sand and gravel dominates and hard rock is scarce), and also the North West.

3.5 The South West was the largest producer of limestone for aggregate use at **18.7 Mt** (34% of total limestone sales) followed by the East Midlands with **11.0 Mt** (20%). The East Midlands accounted for 63% (**12.8 Mt**) of total igneous rock aggregates sales making it, by far, the largest producer.

COMPARISON WITH 2009

3.6 Almost all regions showed an increase in **total primary aggregate sales between 2009 and 2014** across all sectors of land-won sand and gravel, marine sand and gravel and crushed rock. **Sand and gravel sales in England increased by 12%** between 2009 (46.9 Mt) and 2014 (52.4 Mt) whilst **sand and gravel sales for Wales increased by 56%** between 2009 (1.4 Mt) and 2014 (2.1 Mt). **Crushed rock sales in England increased by 19%** between 2009 (59.3 Mt) and 2014 (70.5 Mt) and **crushed rock sales in Wales increased by 5%** between and 2009 (11.4 Mt) and 2014 (12.0 Mt).

3.7 **South Wales and North Wales showed the largest increase in total sand and gravel sales, 61% and 49% respectively** followed by the East Midlands with a 20% increase and London and the East of England both

with 19% increases. Only Yorkshire and the Humber showed a decrease in sales of sand and gravel between 2009 and 2014 (of 20%). Some of the decrease of sales of land-won sand and gravel in Yorkshire and the Humber is as a result of several sites not providing a return in AM2014 and the relevant MPAs unable to provide an estimate.

3.8 Decreases in sales of land-won sand and gravel in London (35%) and the South East (2%) were offset by increases of 28% and 33% respectively in sales of marine sand and gravel.

3.9 The East of England (119%) and West Midlands (43%) showed the largest increases in crushed rock sales. The East Midlands and South West, the two regions accounting for the largest volumes of crushed rock aggregate sales, showed increases in sales of 11% and 25% respectively. **Only South Wales (4%) and the North West (1%) showed a modest decrease in crushed rock sales** between 2009 and 2014.

Comparison of sales of primary aggregates in 2009 and 2014

Thousand tonnes

Region	Land-won sand and gravel			Marine sand and gravel			Total sand and gravel			Crushed rock			Total primary aggregate		
	2009	2014	% change	2009	2014	% change	2009	2014	% change	2009	2014	% change	2009	2014	% change
South West	3 152	3 278	4%	487	645	32%	3 638	3 923	8%	17 206	21 439	25%	20 844	25 362	22%
South East	6 007	5 858	-2%	4 985	6 626	33%	10 992	12 484	14%	1 294	1 795	39%	12 286	14 279	16%
London	577	376	-35%	3 662	4 678	28%	4 239	5 054	19%				4 239	5 054	19%
East of England	9 666	11 586	20%	322	350	9%	9 989	11 936	19%	289	632	119%	10 278	12 568	22%
East Midlands	5 501	6 600	20%				5 501	6 600	20%	21 421	23 806	11%	26 922	30 407	13%
West Midlands	5 860	5 877	0%				5 860	5 877	0%	2 639	3 775	43%	8 500	9 651	14%
North West	2 180	2 461	13%	97	109	12%	2 276	2 571	13%	5 897	5 849	-1%	8 174	8 419	3%
Yorkshire & the Humber	2 929	2 509	-14%	192		-100%	3 122	2 509	-20%	7 240	9 040	25%	10 362	11 549	11%
North East	758	873	15%	563	537	-5%	1 321	1 410	7%	3 328	4 165	25%	4 649	5 575	20%
England	36 631	39 418	8%	10 308	12 944	26%	46 938	52 363	12%	59 314	70 501	19%	106 253	122 864	16%
South Wales	144	205	42%	613	1 013	65%	757	1 218	61%	8 185	7 825	-4%	8 942	9 043	1%
North Wales	589	897	52%	32	30	-6%	621	927	49%	3 245	4 168	28%	3 866	5 095	32%
Wales	733	1 102	50%	645	1 043	62%	1 378	2 145	56%	11 430	11 994	5%	12 808	14 138	10%
England and Wales	37 363	40 520	8%	10 953	13 987	28%	48 316	54 507	13%	70 744	82 495	17%	119 061	137 002	15%

1. Some of the decrease of sales of land-won sand and gravel in Yorkshire and the Humber is as a result of several sites not providing a return in AM2014 and the relevant MPAs not making an estimate.
2. The Crown Estate also record zero landings of marine sand and gravel in Yorkshire and the Humber in 2014.

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 AM2014 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 2014, 34% were used as concreting aggregate, 22% as roadstone (coated as asphalt and uncoated), 20% were used as other screened and graded aggregates, and 14% for other construction uses, including fill.** The remaining 10% is split between building/asphalting sand, railway ballast, armourstone and undifferentiated aggregate use.

SAND & 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 **55%** and **69%** of the respective totals for aggregate use. The other main products were, other screened and graded gravels, sand suitable for use in mortar and sand and gravel for construction fill

CRUSHED ROCK

4.5 Crushed rock has a wider range of uses including as a source of both coarse and fine **concrete aggregate (17%)**, other screened and graded aggregates (24%) and for **other construction uses, including fill (17%)**. 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 **28.0 Mt or 34%** of total crushed rock aggregate sales. Of this total 14.5 Mt was sold as coated roadstone. Other smaller specialist uses, include railway track ballast (2.2 Mt) and armourstone (0.7 Mt).

NON-AGGREGATE USES

4.6 Although the data for non-aggregates uses (mainly limestone/dolomite) are incomplete (see paragraph 4.1 above), the most important uses were cement manufacture, other unspecified industrial uses, a flux in iron/steel making and agricultural use (Table A3 and A5). Recorded **non-aggregate uses of crushed rock** were **16.3 Mt** in 2014, of which 96% (15.6 Mt) was limestone/dolomite. The **East Midlands** accounted for **11.2 Mt** of the limestone/dolomite total.

4.7 **Sales of sand and gravel (mainly silica sand) for non-aggregate (industrial) uses were 2.9 Mt**, almost all of which was produced in England. The North West was the major producing region, contributing 1.1 Mt.

5. INTER-REGIONAL FLOWS

5.1 The four yearly AM surveys are the only published source of information on aggregate sales by destination (region and, from AM2005, sub-region). The regions and sub-regions used are shown on Map 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 2.6 Mt in 2014 (<2% of total sales). The inter-regional and sub-regional flow information is used to calculate consumption data and unallocated sales thus have the effect of reducing total consumption.

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, 10 and 11 for sub-regions. **Inter-regional flows of crushed rock are significantly larger than for sand and gravel because of the overall larger demand for crushed rock, particularly for roadstone, and because regions such as the South East, London and the East of England have only minor, or inferior quality, crushed rock resources.** In addition, the consistency and extent of some hard rock deposits permits their working on a very large scale, enabling much wider geographical areas to be served economically by rail. The transfer of crushed rock between regions is, therefore, more complex and uneven than for sand and gravel. It reflects the

combined pattern of the extent of crushed rock resources and markets /population (demand).

CRUSHED ROCK

5.3 Total exports of crushed rock from **Wales to England** were **4.2 Mt** compared with **0.13 Mt** in the opposite direction. The traditionally large crushed rock producers in England, the **East Midlands and South West** have the largest exports representing **54% (12.8 Mt)** and **32% (6.8 Mt)** of their respective total crushed rock sales. Exports of crushed rock from North Wales, another traditional crushed rock exporter were 55% of crushed rock sales (2.3 Mt). The main importing regions were the **North West (7.7 Mt)**, mainly from East Midlands and North Wales, the **South East (5.5 Mt)** mainly from the South West, the **East of England (4.2 Mt)** mainly from the East Midlands and **London (3.9 Mt)**, mainly from the South West.

SAND & GRAVEL

5.4 In contrast, regional flows of sand and gravel were around a third of crushed rock. Total exports of sand and gravel from Wales to England were (0.16 Mt) compared with Welsh imports from England of (0.09 Mt). The leading exporters of sand and gravel were the East of England (2.2 Mt), the East Midlands (2.1 Mt) and the South East (1.7 Mt), and the leading importing regions were London (2.0 Mt), the East of England (1.6 Mt) and the South East (1.3 Mt).

5.5 The **South East dominates marine-dredged sales at 6.6 Mt**, with London at 4.7 Mt the second largest, followed by South Wales at 1.0 Mt.

5.6 In addition to inter-regional flows and material from conventional offshore dredging, **a significant amount of crushed rock (3.2 Mt)** was imported from outside England and Wales, mainly from Scotland and Norway. The largest proportion (1.2 Mt) was landed in the London.

COMPARISON WITH 2009

5.7 Net imports of primary aggregates into England from Wales increased by 73% from **2.4 Mt** in **2009** to **4.1 Mt** in **2014**. Imports of crushed rock from outside England and Wales have increased by 30% from **2.5 Mt to 3.2 Mt**. Sales of marine-dredged sand and gravel increased by 28% from **11.0 Mt to 14.0 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 AM surveys and Table E2 for the AWP regions used from AM2001 onwards.

6.2 Total recorded apparent consumption of primary aggregates was 137.4 Mt in England and Wales, to which should be added just over **2.6 Mt** of unallocated sales to give **140.1 Mt**. Four regions, East Midlands, South West, North Wales and South Wales were net exporters of aggregates and the remaining seven regions were net importers, to varying degrees. The **South East at 19.2 Mt** was the **largest consuming region**, with the South West (19.0 Mt) and the East Midlands (17.8 Mt) both close behind. The North West, the South East, and London 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 2009

6.4 Compared with 2009 there has been an increase (15%) in consumption of primary aggregates from **121.4 Mt to about 140.1 Mt**, including unallocated sales of 2.6 Mt.

7. MODE OF TRANSPORT

7.1 Table 8 shows the principal mode of transport employed for the distribution of aggregate sales (for the majority of the journey) from quarries and wharves. Overall, **road** accounted for **90.0 %** of all aggregates moved, **rail transport 9.7%** and shipment by **water 0.3%**. The comparable proportions for 2009 were **88.5%, 11.0% and 0.6%**, respectively.

7.2 For crushed rock, while volumes remained similar, the proportion of rail deliveries decreased from 16.3% (12.0 Mt) in 2009 to **14.2% (12.2 Mt) in 2014**. The use of rail transport in the South West and the East Midlands accounted for **5.5 Mt and 5.3 Mt** of all crushed rock aggregate rail forwardings respectively, the main destinations being the South East, East of England and London. Rail was also used for transporting crushed rock in Yorkshire and the Humber, London and the South East (both from wharves)

and South Wales. The principal transfers of crushed rock by water (sea) were from the South West to the South East.

8. RESERVES

8.1 Table 12 and Map 10 summarise reserves of primary aggregates with valid planning permissions at 31 December 2014 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 AM surveys and Table E3 for the AWP regions used from AM2001 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 MPAs in the absence of returns. Wherever possible estimates were based on earlier records (depleted for sales), or upon more general knowledge of the site.

8.3 Total permitted reserves in active and inactive sites for aggregate use at the end of 2014 were **3 906 Mt** of which crushed rock accounted for **88% (3 448 Mt)** and sand and gravel the remaining **12% (457 Mt)**. Sand and gravel reserves are much smaller in relation to average annual land-won sales (equivalent to about 11 years output in 2014) than crushed rock reserves, which are usually measured in terms of a few decades (42 years in 2014).

8.4 Total permitted reserves in active sites at the end of 2014 were **3 152 Mt**. In 2014 crushed rock accounted for **89%** and sand and gravel the remaining **11%** of reserves in active sites.

8.5 Total permitted reserves in inactive sites were 754 Mt, of which 679 Mt were in sites worked in the past and only 75 Mt in sites yet to be worked (greenfield sites). Reserves contained in inactive sites classified as 'Dormant' were **421 Mt**, of which **393 Mt** consisted of crushed rock and **29 Mt** sand and gravel.

COMPARISON WITH 2009

8.6 Total permitted reserves show a 14% **decrease of 642 Mt** on 2009 when total reserves for aggregate use were **4 547 Mt**, comprising **3 982 Mt**

of crushed rock and **565 Mt** of sand and gravel (excluding reserves for non-aggregate use and tonnages in dormant sites). Total permitted reserves in active sites show a 14% decrease from **3 646 Mt** in **2009**. Total permitted reserves in active sand and gravel sites show a 22% decrease from 437 Mt and crushed rock 12% from 3 209 Mt in 2009.

DISTRIBUTION

8.7 The distribution of reserves is very uneven reflecting broadly both geology and demand (Map 10). Of total reserves, **82% were in England**. Some **25% of all permitted reserves** were located in the **East Midlands** (compared with 22% of total sales), and **22%** in the **South West** (compared with 19% of total sales). These two regions also accounted for a significant proportion of total crushed rock reserves (**919 Mt or 27%, and 818 Mt or 24%** respectively). Excluding London, the regions with the smallest crushed rock reserves were East of England (**5 Mt**) and the South East (**52 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 (**124 Mt**) equivalent to **27%** of the sand and gravel total. Other English regions with significant sand and gravel reserves were the West Midlands (**89 Mt**), South East (**67 Mt**), and the East Midlands (**60 Mt**). Only **4%** (19 Mt) of total sand and gravel reserves were in Wales.

9. ENVIRONMENTALLY DESIGNATED AREAS

9.1 As in previous surveys since AM97, systematic information on aggregates sales and reserves in statutorily designated areas were collected and are presented in Tables 7 and 13 respectively. In AM2009 data collection for Green Belts was re-introduced and was retained for AM2014. Apart from National Parks and AONBs, data for **designated areas are not mutually exclusive**. For example, SACs and SPAs are also SSSIs and all may occur in National Parks and AONBs. 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 SSSIs, may only coincide with a small part of an extant mineral permission, which may, or may not, be active. The degree of overlap, and the actual or potential impacts of mineral extraction on the conservation interest, whether geological or biological, will vary and cannot be calculated or assumed from the figures presented. In addition, legal agreements may already exist which protect these designations from quarrying. 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 AONBs were 7.7 Mt and 4.0 Mt respectively. Comparable figures for land-won sand and gravel were 0.2 Mt and 1.4 Mt. Some **29.5 Mt total primary land-won aggregates** were produced from sites associated with **SSSIs**. Such sites accounted for 31% of crushed rock aggregate sales and 9% of total land-won sand and gravel sales. In contrast sales from sites within Green Belts were 5.0 Mt of crushed rock and 6.6 Mt of sand and gravel.

9.4 At regional level, **36% (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 **35% (2.7 Mt)**. The largest sales of crushed rock aggregates from AONBs (2.6 Mt) came from the South West.

RESERVES

9.5 Total reserves of aggregates in sites within **National Parks (356 Mt)** and **AONBs (281 Mt)** were **9%** and **7%** respectively of total permitted reserves. Of total reserves in National Parks and AONBs (638 Mt), crushed rock reserves accounted for some 96%, reflecting the upland nature of these designations due to the presence of more resistant rock types. Total reserves of sand and gravel, and crushed rock in National Parks and AONBs for non-aggregate use were 201 Mt in 2014.

9.6 Total aggregate reserves in sites in part associated with **SSSIs** were **919 Mt or 24%** of the total for England and Wales. They consist almost entirely (95%) 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 247 Mt**, comprising **158 Mt** of crushed rock and **89 Mt** of sand and gravel.

10. ALTERNATIVE AGGREGATES

10.1 The AM2014 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 2.3 Mt of such alternative aggregates were sold in 2014.**

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, the survey 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 2010 to 2014.

11.2 ‘Permissions’ issued under the terms of the Planning & Compensation Act 1991 and the Environment Act 1995 (ROMPs) 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 2010 and 2014, inclusive**, and the amounts of mineral they contained. **Permissions, (207 or 94% of those granted/refused) greatly exceeded refusals (13). Total reserves of crushed rock granted planning permission between 2010 to 2014 were 281 Mt, of which 261 Mt were in England and 20 Mt in Wales.** The largest increases in crushed rock reserves were in the East Midlands (146 Mt) and Yorkshire and the Humber (33 Mt).

11.4 Total crushed rock reserves granted permission (281 Mt) were higher than in the period 2005 to 2009 (183 Mt), however, drawing a meaningful comparison is difficult due to the five year data collection period for AM2014 (compared to the four year period collected in AM2009). Looking at a comparable time period (2011-2014), total crushed rock reserves granted planning permission were 243 Mt, 33% higher than in the period 2005 to 2009.

11.5 **Total reserves of sand and gravel granted planning permission between 2010 to 2014 were 149 Mt, of which 146 Mt were in England and 3.0 Mt in Wales.** The largest additions were in the East of England (44 Mt), the South East (27 Mt) and the West Midlands (23 Mt).

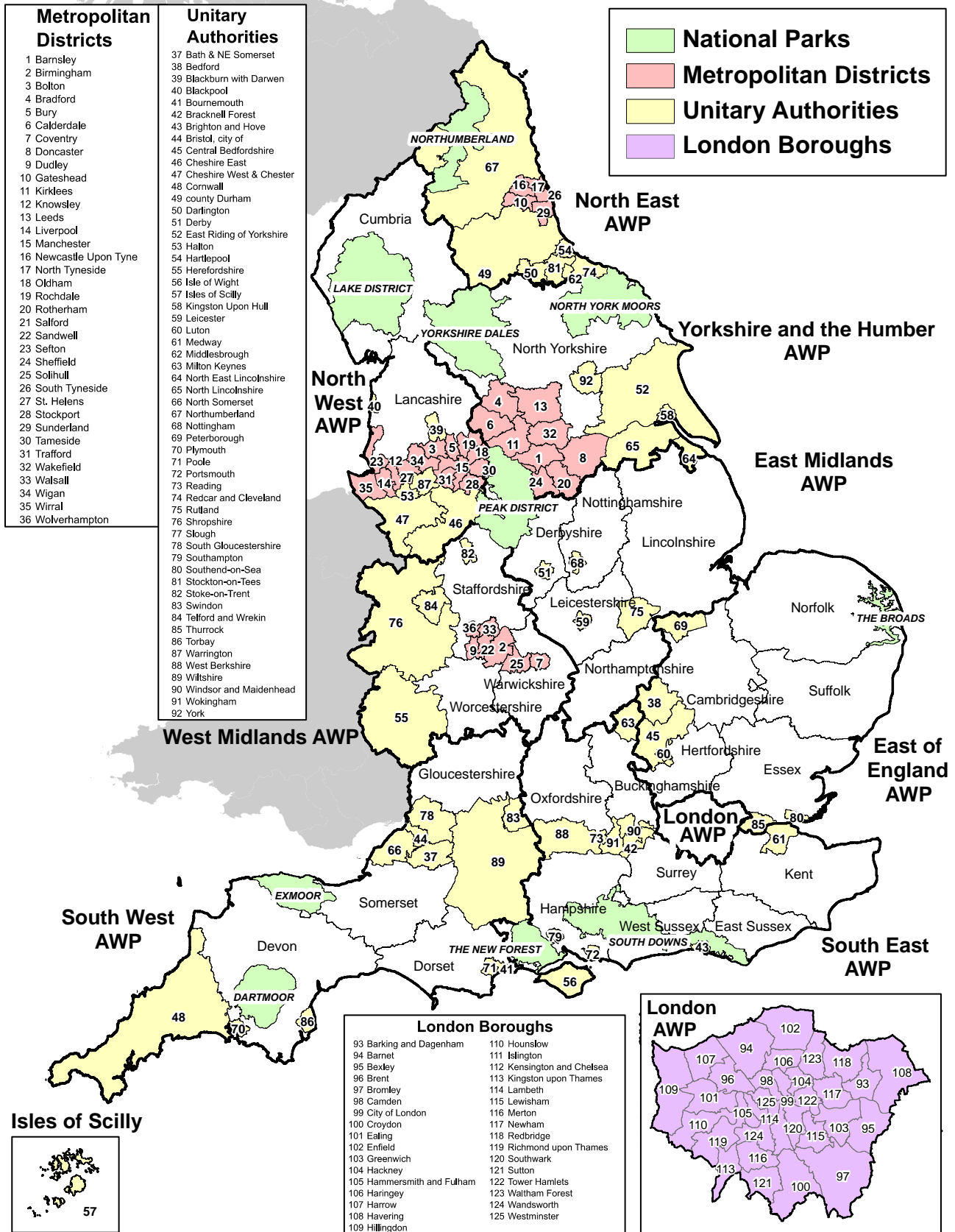
11.6 Total sand and gravel reserves granted planning permission between 2010 and 2014 (149 Mt) were lower than in the period 2005 to 2009 (166 Mt). Looking at a comparable time period (2011-2014), total sand and gravel reserves granted planning permission were 113 Mt, 32% lower than in the period 2005 to 2009.

11.7 Tables 16 and 17 show the number of sites currently awaiting a planning permission decision (as at 31 December 2014) or which have been withdrawn from the application process and not subsequently re-submitted between 2010 and 2014. **There are currently 61 sites where a planning permission decision is outstanding.** These sites comprise **180 Mt of total aggregate** split between 105 Mt crushed rock and 75 Mt sand and gravel. It is important to note that not all planning permission applications awaiting a decision may be granted. There are 9 sites whose planning permission application has been withdrawn and not subsequently re-submitted between 2010 and 2014. All of the aggregates in withdrawn applications (7.8 Mt) relate to sand and gravel sites.

11.8 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. The quantity of crushed rock granted planning permission in National Parks and AONBs for the period 2010 to 2014 was 28.6 Mt and 13.4 Mt. For sand and gravel, the quantities were 2.9 Mt and 0.5 Mt respectively. The quantity of aggregate mineral granted planning permission in relation to SSSIs was 40.6 Mt for crushed rock and 7.5 Mt for sand and gravel. The quantity of mineral granted permission in relation to Green Belts was 5.3 Mt for crushed rock and 30.9 Mt for sand and gravel.

11.9 The AM2014 survey identified for the first time planning permission information in relation to aggregate sites located within areas of land allocated for mineral extraction (allocated site, preferred area, area of search) in the MPAs development plan. This information is shown in Tables C17 and C18 in Appendix C. The total quantity of aggregate mineral granted permission between 2010 and 2014 in sites located within areas allocated for mineral extraction in the MPAs development plan was 58.6 Mt (21% of total reserves permitted) for crushed rock and 76.1 Mt (51% of total reserves permitted) for sand and gravel.

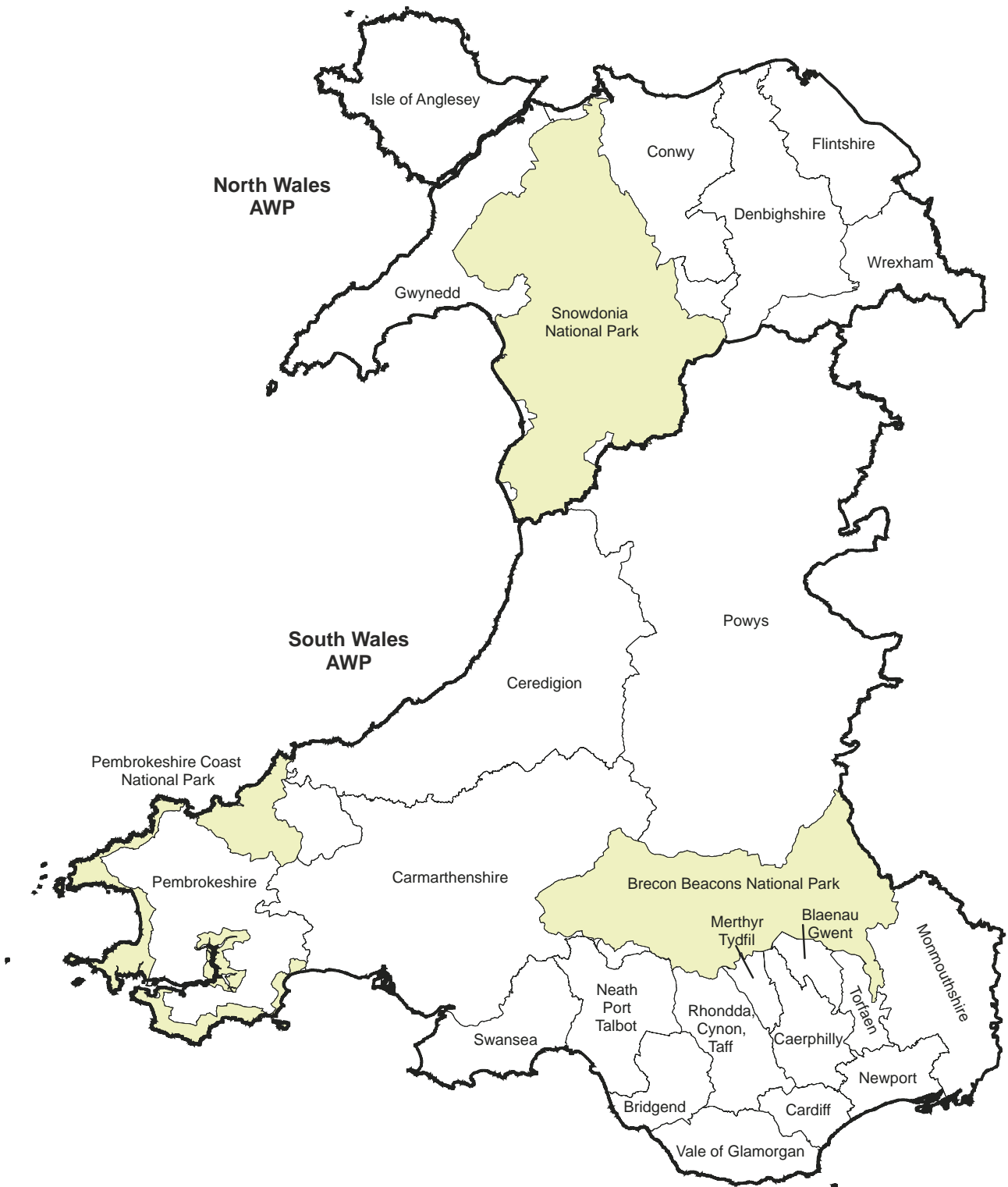
Map 1: Mineral Planning Authorities and Aggregate Working Party regions in England, 2014



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Data Sources:
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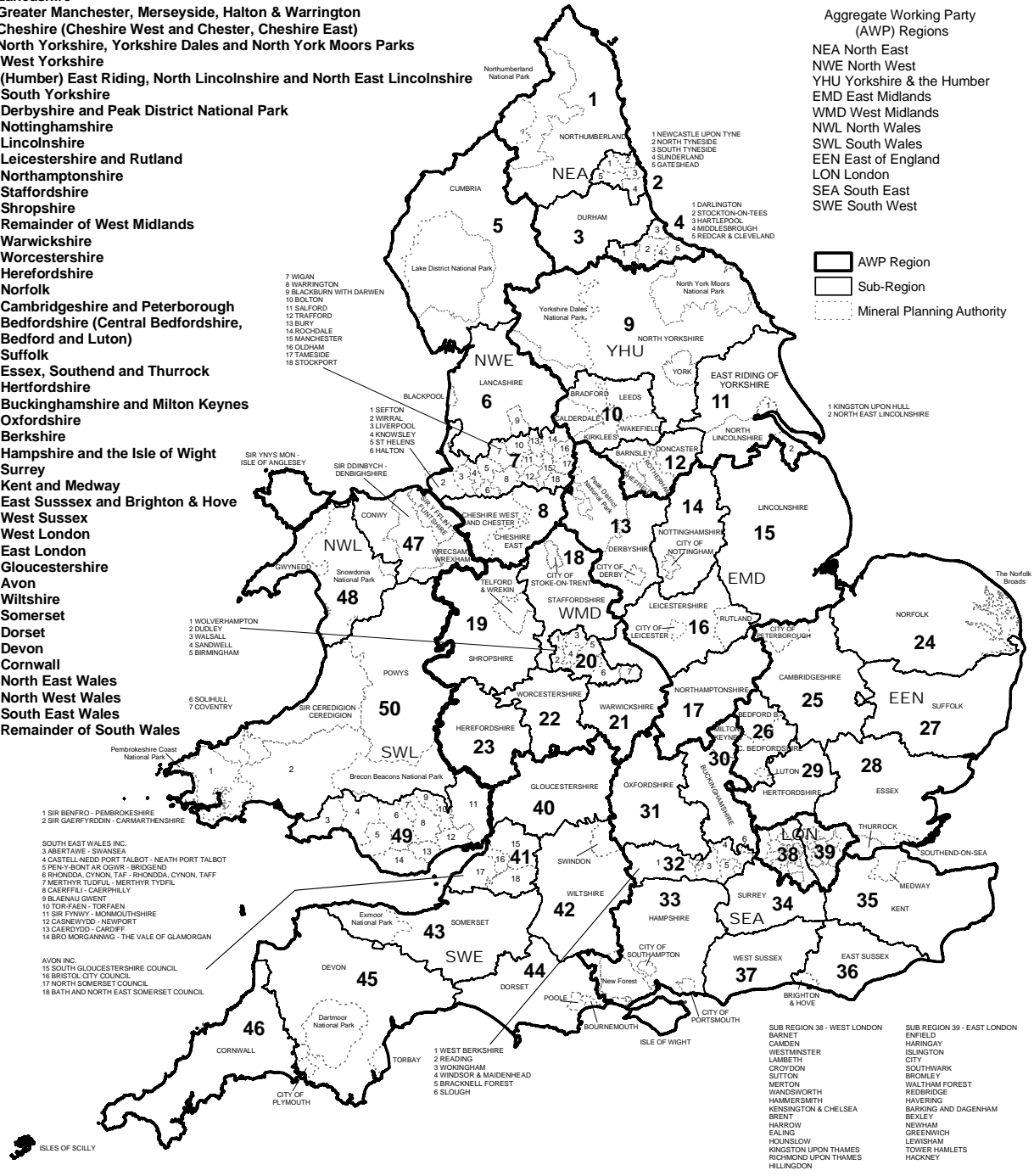
Map 2: Mineral Planning Authorities and Aggregate Working Party regions in Wales, 2014



Map 3: Sub-regions used for AM2014

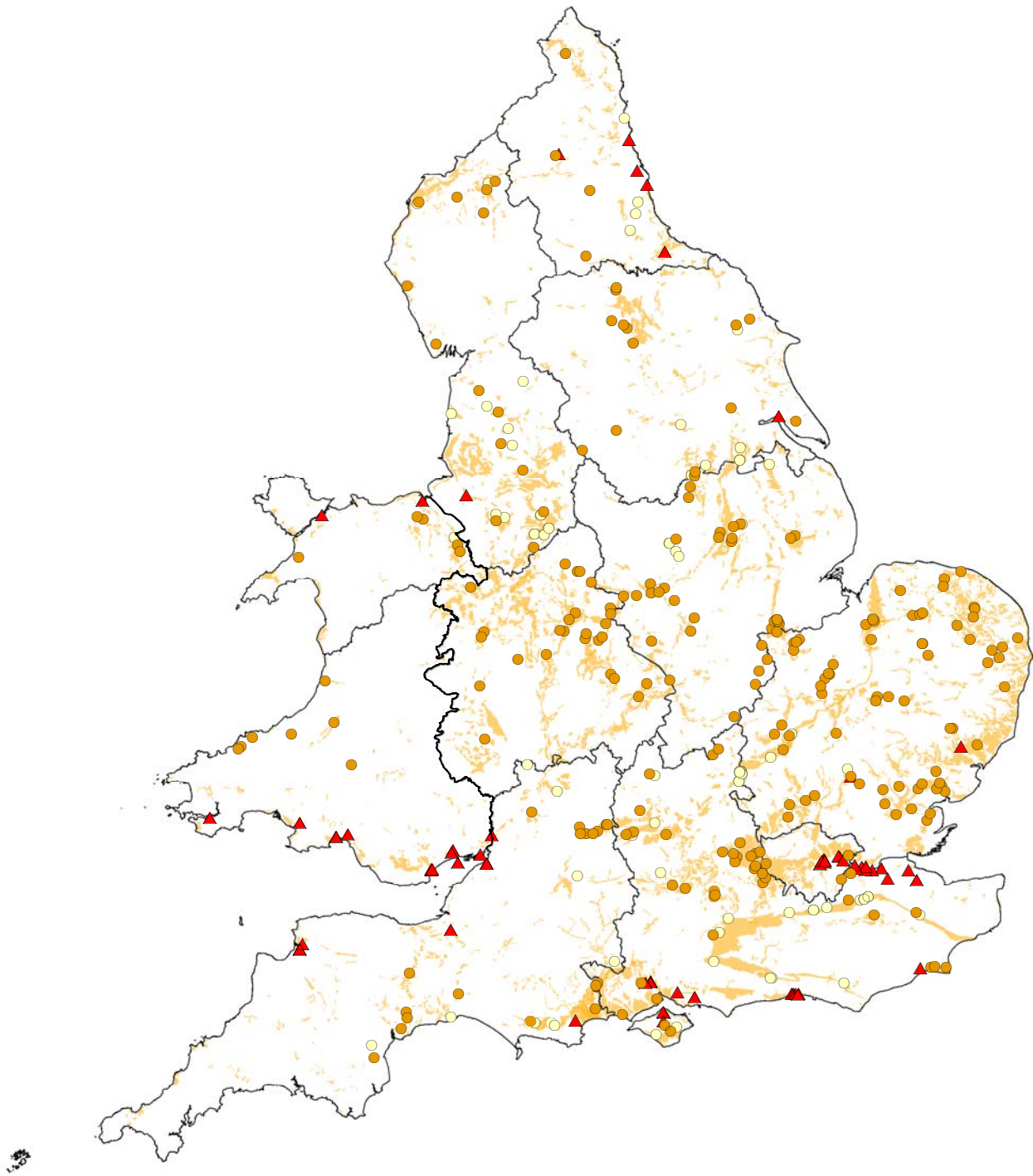
- Sub-Regions**
- 1 Northumberland and the National Park
 - 2 Tyne & Wear,
 - 3 Durham
 - 4 Tees Valley
 - 5 Cumbria
 - 6 Lancashire
 - 7 Greater Manchester, Merseyside, Halton & Warrington
 - 8 Cheshire (Cheshire West and Chester, Cheshire East)
 - 9 North Yorkshire, Yorkshire Dales and North York Moors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

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



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Map 4: Location of active sand and gravel quarries included in the survey



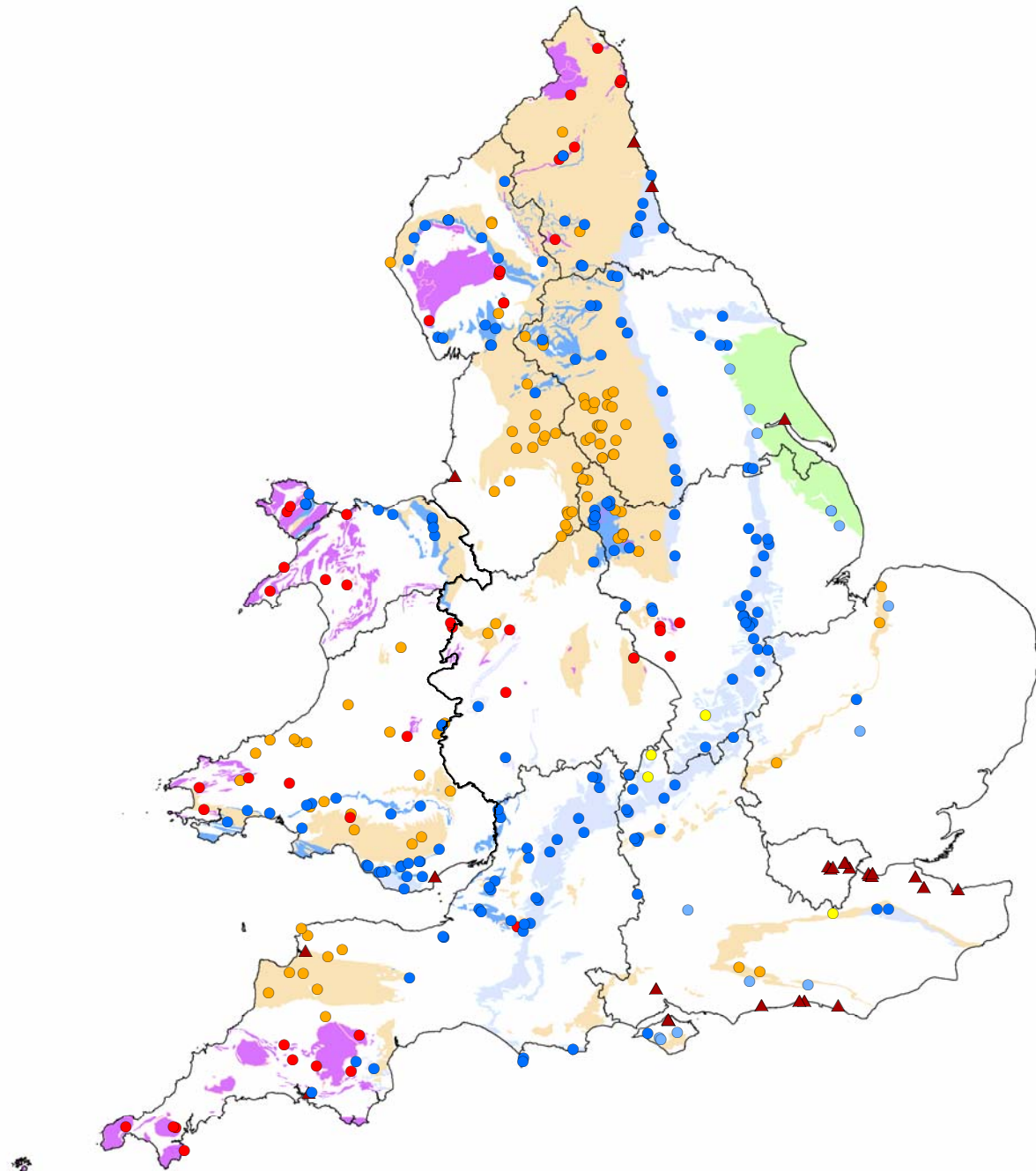
DESCRIPTION

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

■ Sand and gravel

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

Map 5: Location of active crushed rock quarries included in the survey

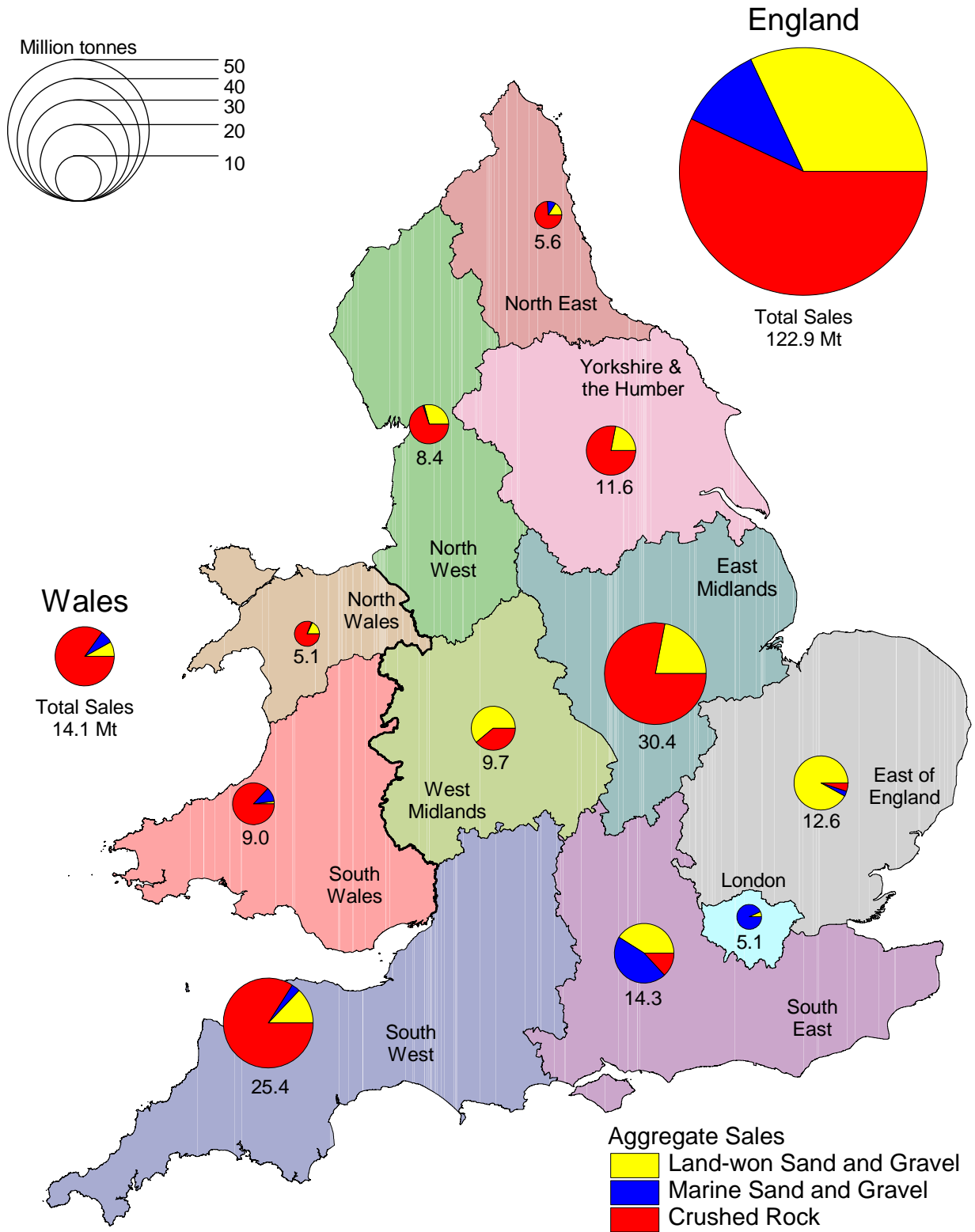


DESCRIPTION

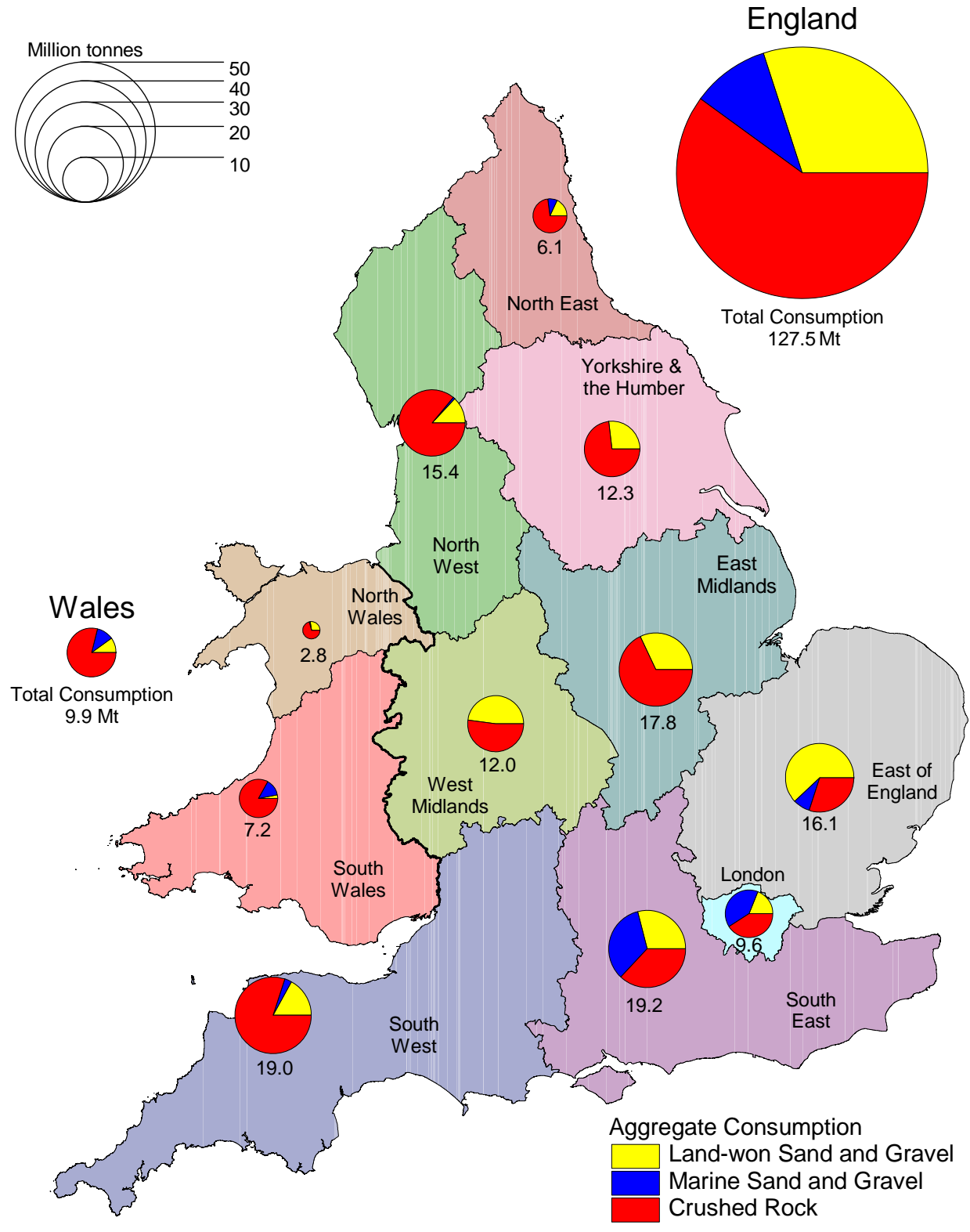
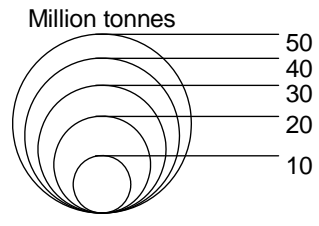
- Limestone (including dolomite)
 - Igneous rock (including metamorphic rock)
 - Sandstone (includes greywacke, gritstone and quartzite)
 - Chalk
 - Ironstone
 - ▲ Marine wharf landing crushed rock
- Cretaceous (Chalk)
 - Carboniferous Limestone
 - Other limestones
 - Igneous and metamorphic rocks
 -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

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

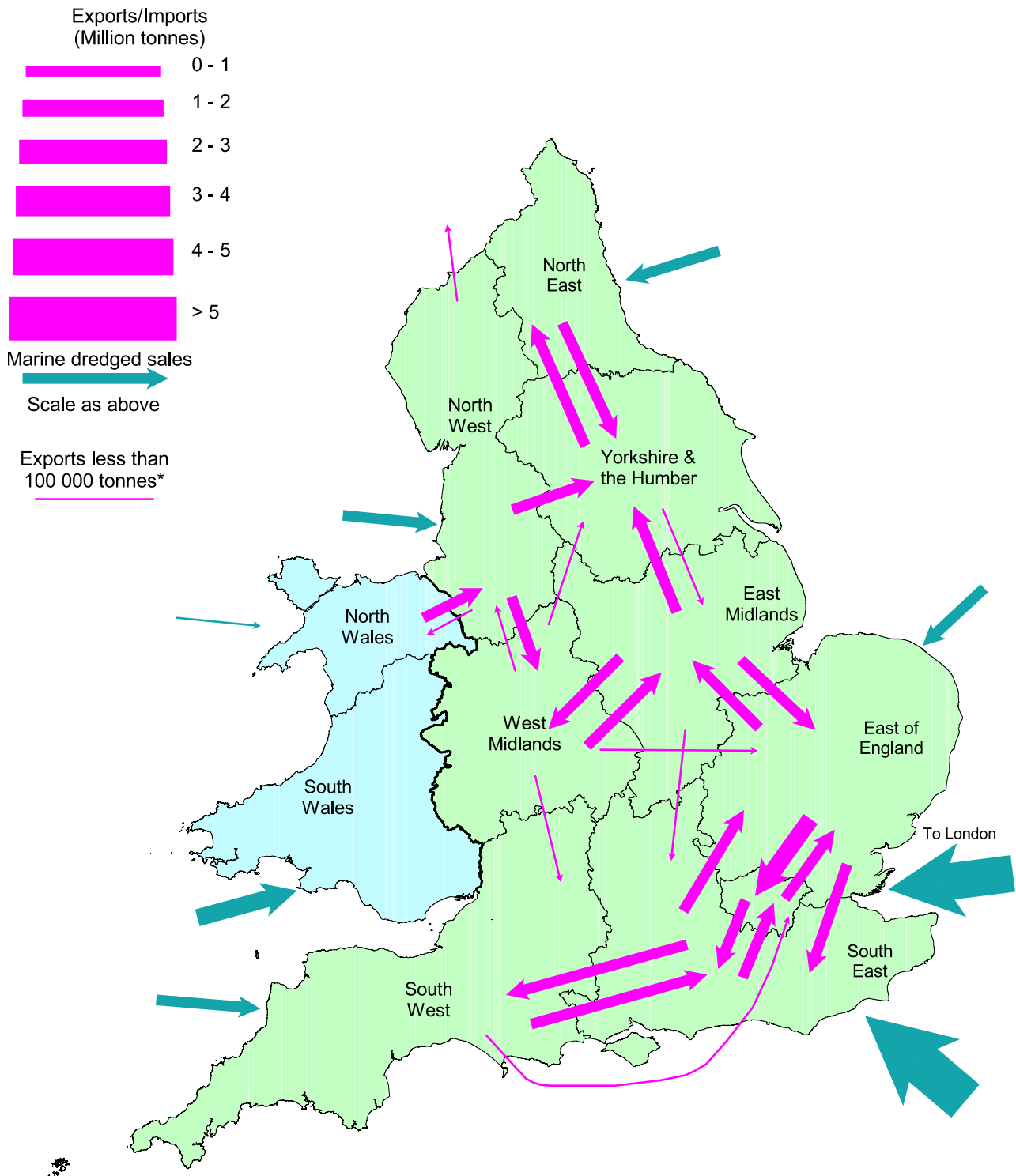
Map 6: Sales of sand and gravel and crushed rock for aggregates, 2014



Map 7: Consumption of sand and gravel and crushed rock for aggregates, 2014

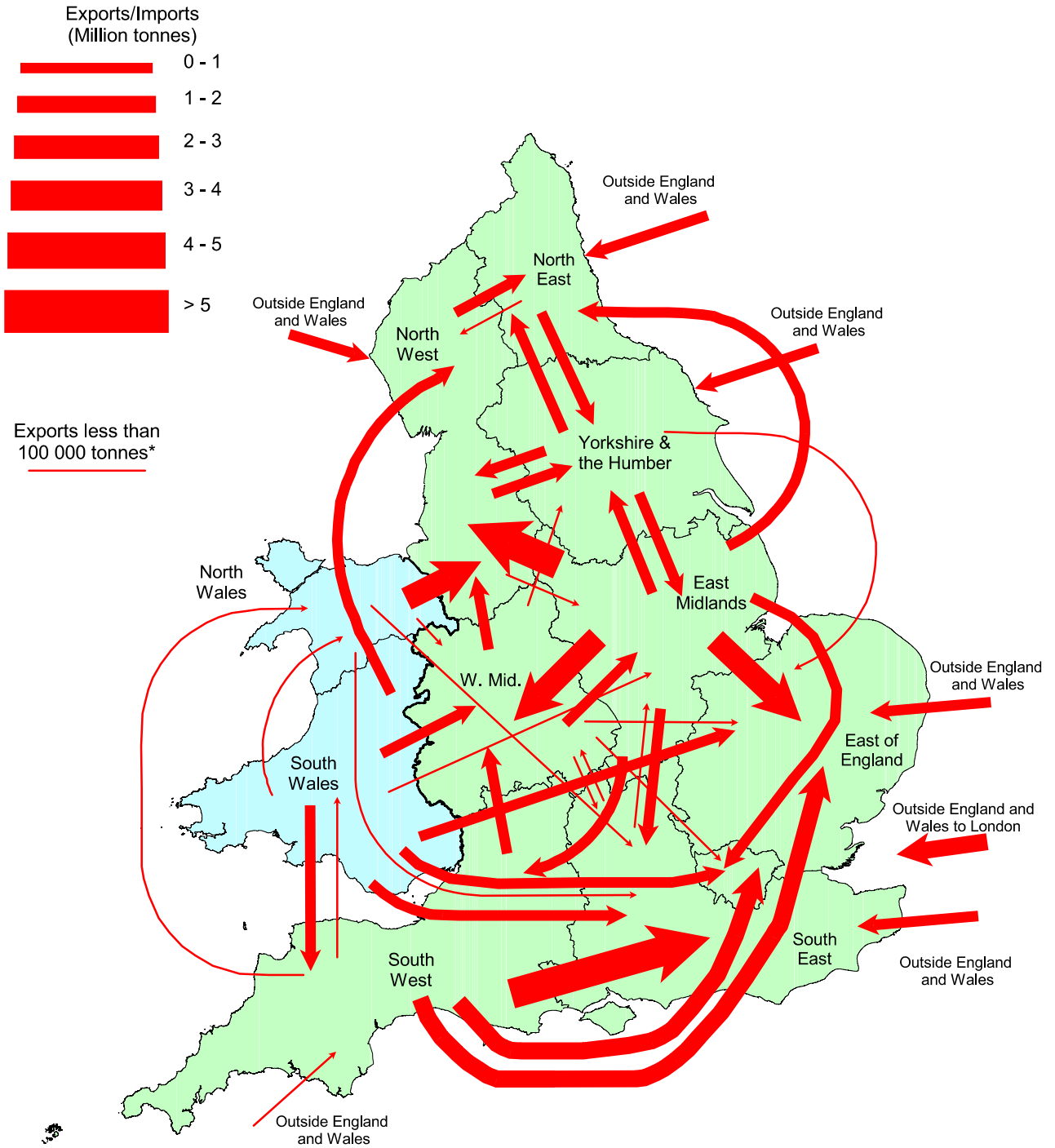


Map 8: Sand and gravel inter-regional flows, 2014



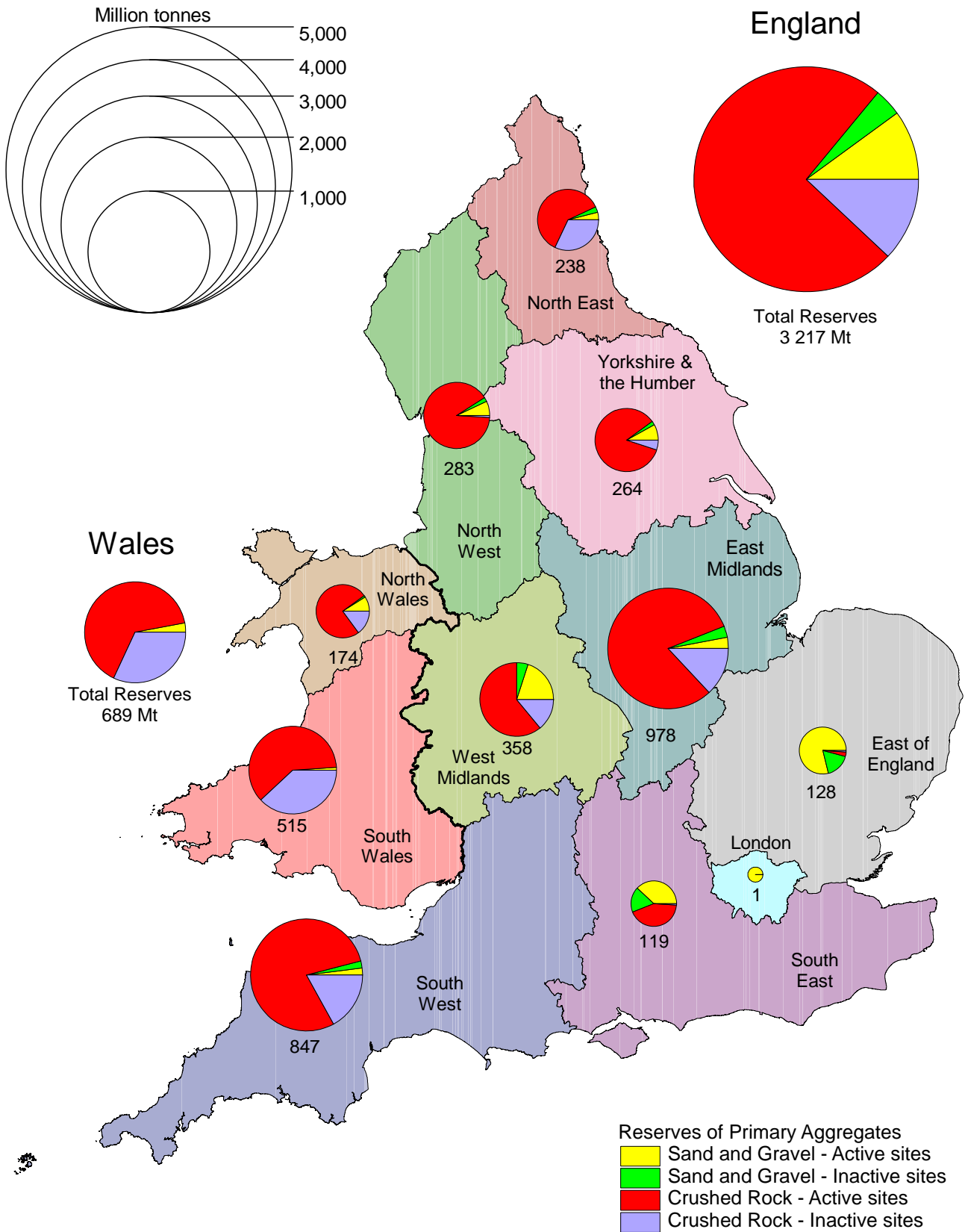
*For clarity, exports less than 25 000 tonnes are not shown.

Map 9: Crushed rock inter-regional flows, 2014

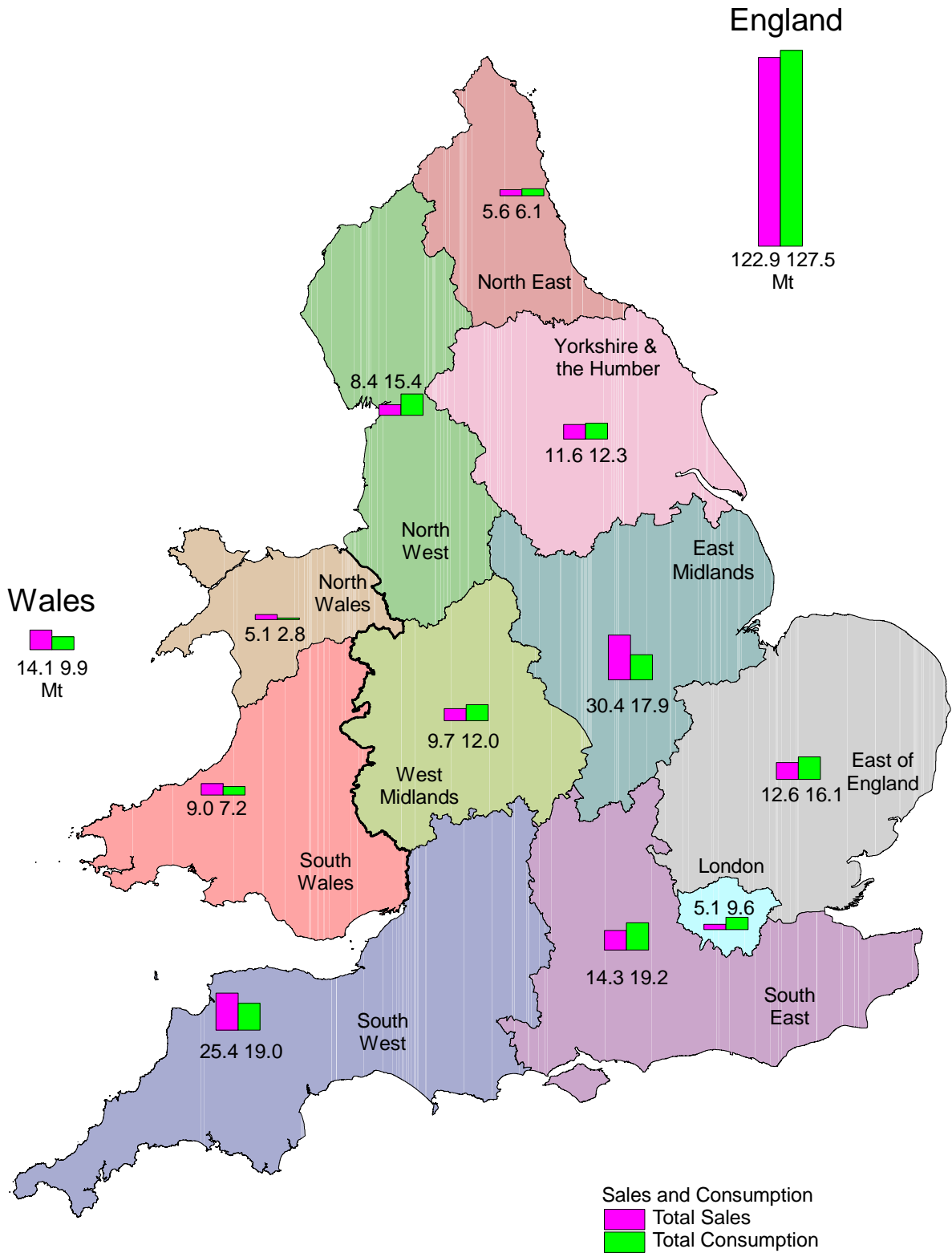


*For clarity, exports less than 25 000 tonnes are not shown.

Map 10: Permitted reserves of primary aggregates in England and Wales – active and inactive sites, 2014



Map 11: Sales and consumption of primary aggregates, 2014



*Figures for consumption are slightly underestimated because of the unknown destination of some sales (i.e. unallocated sales = c. 2.6 Mt).

Figure 1: Planning permission expiry dates for active quarries, 2014

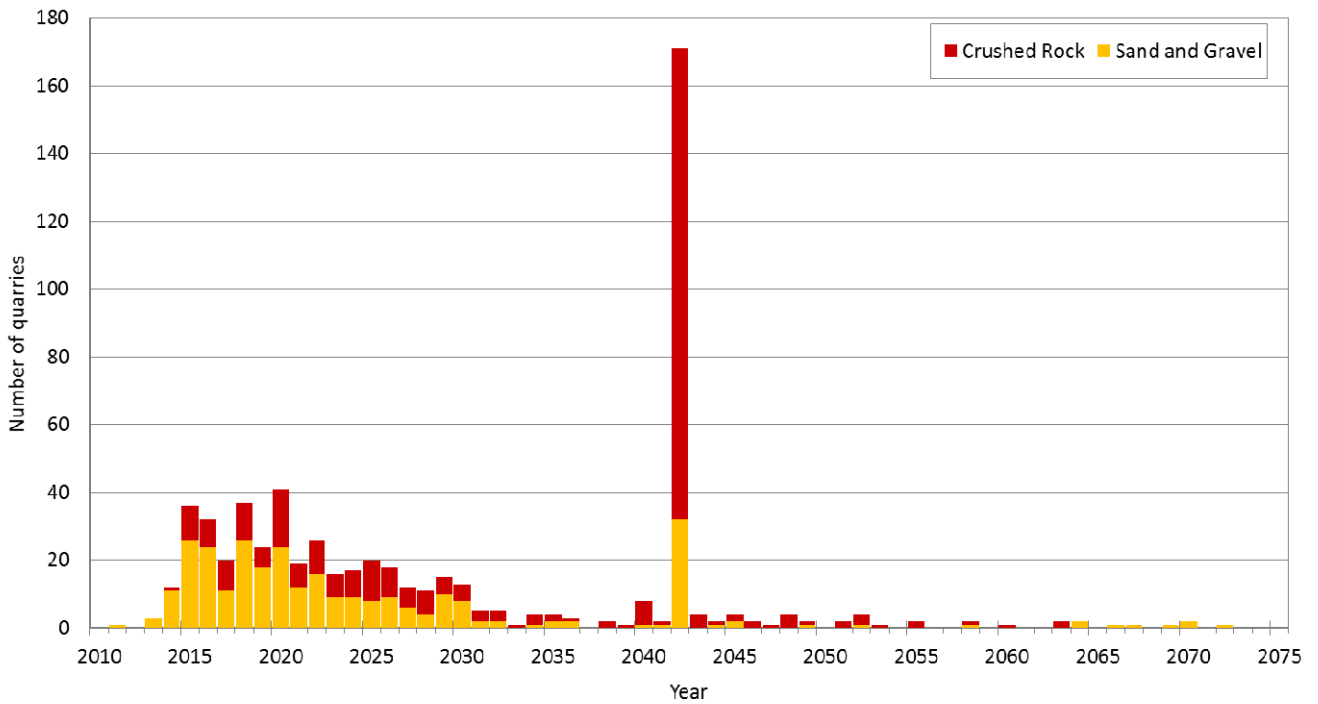


Figure 2: Planning permission expiry dates for active sand and gravel quarries, 2014

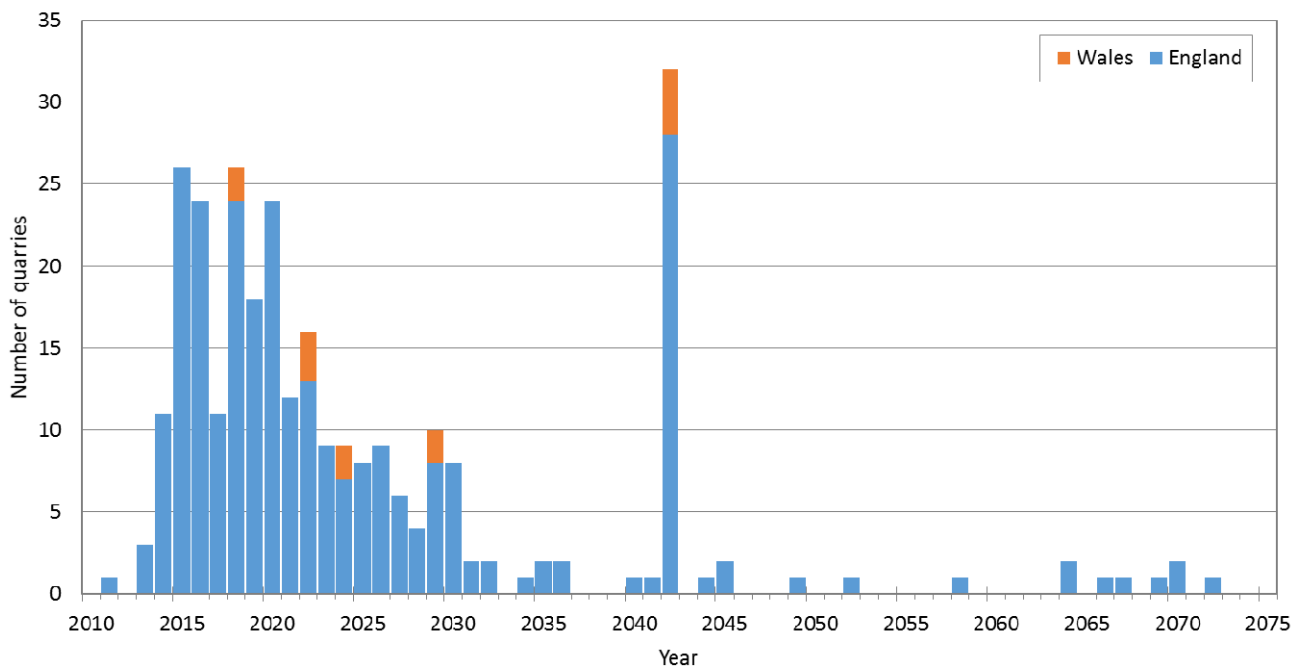
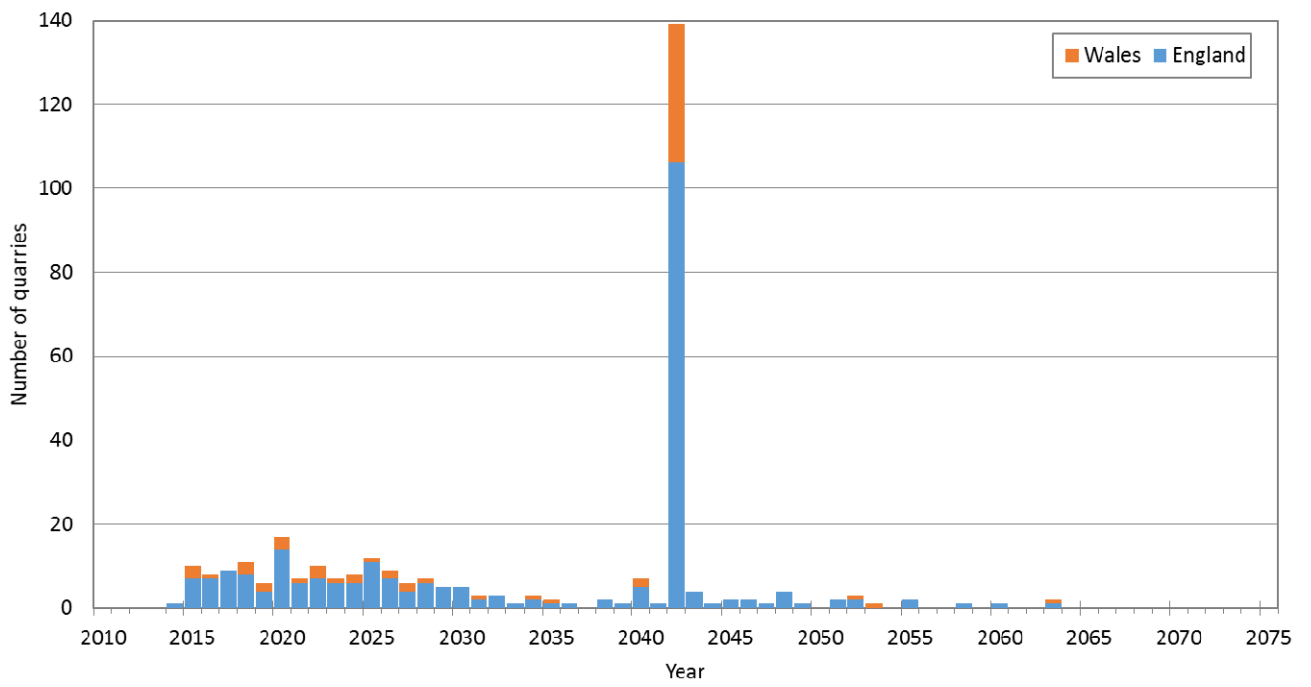


Figure 3: Planning permission expiry dates for active crushed rock quarries, 2014



General Notes on the Tables

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

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

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

The rationale behind the presentation of tables is as follows:

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

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

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

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

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

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

Tables 14 and 15 show total tonnages granted and refused planning permission between 2010 and 2014 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 C18 provide details of planning permissions, refusals, awaiting and withdrawn by site type, environmental designation and within a development plan allocated area.

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

Tables E1 to E3 provide comparison of sales, consumption and reserves for 2001, 2005, 2009 and 2014.

Table 1: Comparison of sales and consumption of primary aggregates in 2014

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	25 362	18 995	134%	-	25%
South East	14 279	19 197	74%	26%	-
London	5 054	9 573	53%	47%	-
East of England	12 568	16 118	78%	22%	-
East Midlands	30 407	17 819	171%	-	42%
West Midlands	9 651	12 043	80%	20%	-
North West	8 419	15 363	55%	45%	-
Yorkshire & the Humber	11 549	12 265	94%	6%	-
North East	5 575	6 118	91%	9%	-
England	122 864	127 489	96%		
South Wales	9 043	7 150	126%	-	21%
North Wales	5 095	2 798	182%	-	44%
Wales	14 138	9 948	142%		
England and Wales	137 002	137 438	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 140.1 million tonnes.
4. 97.2% of total sales is based on figures supplied by site operators. The remaining 2.8% is based on estimates made by Mineral Planning Authorities.
5. Consumption is calculated using sales by destination data. 94.1% of total sales by destination is based on figures supplied by site operators. The remaining 5.9% is based on estimates made by Mineral Planning Authorities.

Table 2a: Summary sales of primary aggregates in 2014

Thousand tonnes

Region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregate
South West	3 278	645	3 923	21 439	25 362
South East	5 858	6 626	12 484	1 795	14 279
London	376	4 678	5 054		5 054
East of England	11 586	350	11 936	632	12 568
East Midlands	6 600		6 600	23 806	30 407
West Midlands	5 877		5 877	3 775	9 651
North West	2 461	109	2 571	5 849	8 419
Yorkshire & the Humber	2 509		2 509	9 040	11 549
North East	873	537	1 410	4 165	5 575
England	39 418	12 944	52 363	70 501	122 864
(%)	97%	93%	96%	85%	90%
South Wales	205	1 013	1 218	7 825	9 043
North Wales	897	30	927	4 168	5 095
Wales	1 102	1 043	2 145	11 994	14 138
(%)	3%	7%	4%	15%	10%
England and Wales	40 520	13 987	54 507	82 495	137 002

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 2014, 1.4 million tonnes of china clay waste (sand and rock) and 0.17 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. In addition, a small amount of colliery spoil was sold for aggregate use.
4. 95.7% of total sales is based on figures supplied by site operators. The remaining 4.3% is based on estimates made by Mineral Planning Authorities.

Table 2b: Summary of consumption of primary aggregates in 2014

Thousand tonnes

Region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregate
South West	3 190	638	3 828	15 167	18 995
South East	5 623	6 448	12 071	7 126	19 197
London	1 834	3 849	5 683	3 890	9 573
East of England	9 965	1 311	11 276	4 841	16 118
East Midlands	5 678		5 678	12 141	17 819
West Midlands	5 750	4	5 753	6 289	12 043
North West	2 000	87	2 087	13 276	15 363
Yorkshire & the Humber	3 249	8	3 257	9 007	12 265
North East	1 097	528	1 625	4 494	6 118
England	38 385	12 874	51 259	76 230	127 489
(%)	97%	92%	96%	91%	93%
South Wales	247	1 011	1 258	5 892	7 150
North Wales	762	52	815	1 983	2 798
Wales	1 010	1 063	2 073	7 875	9 948
(%)	3%	8%	4%	9%	7%
England and Wales	39 395	13 937	53 332	84 105	137 438

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 140.1 million tonnes.
3. Total unallocated sales = Sand and gravel 1.1 million tonnes
Crushed rock 1.5 million tonnes
4. Consumption is calculated using sales by destination data. 94.1% of total sales by destination is based on figures supplied by site operators. The remaining 5.9% is based on estimates made by Mineral Planning Authorities.

Table 3: Summary of exports and imports of primary aggregates (land-won and marine) in 2014

Thousand tonnes

Region	Exports		Imports	
	Sand and gravel	Crushed rock	Sand and gravel	Crushed rock
South West	500	6 792	402	587
South East	1 724	148	1 311	5 478
London	1 417		2 046	3 890
East of England	2 216	23	1 562	4 233
East Midlands	2 095	12 758	1 173	931
West Midlands	759	961	636	3 477
North West	723	313	240	7 740
Yorkshire & the Humber	406	1 797	1 154	1 765
North East	136	507	351	835
England	9 977	23 298	8 874	28 936
South Wales	2	2 012	42	79
North Wales	158	2 281	46	126
Wales	160	4 293	88	205
England and Wales	10 137	27 591	8 962	29 141

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 (0.23 million tonnes).
4. Imports include aggregates imported from outside England and Wales (3.2 million tonnes), principally crushed rock.

Table 4a: Sales of aggregates and aggregate minerals by region in 2014: South West

Thousand tonnes

Aggregate mineral		Aggregates	Non-aggregates	Total
Sand and gravel	Land won	3 278	129	3 407
	Marine dredged	645	6	650
	Total	3 923	134	4 057
Crushed rock	Limestone / dolomite	18 652	504	19 155
	Sandstone	459	2	460
	Chalk			
	Ironstone			
	Total	21 439	513	21 953
Total Aggregates		25 362	648	26 010
<i>Percent</i>		98%	2%	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 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	2 841	436	324	93	0	0	11	0	1		7			
	Marine dredged	586	9	6				3				0	0		
	Total	3 427	445	330	93	0	0	14	0	1		7	0		
Crushed rock	Limestone / dolomite	12 359	6 225	3 277	1 505	1 085	2	285			0	45	26		
	Igneous rock	1 769	247	206		0		37		1					1
	Sandstone	453	6	6											
	Chalk														
	Ironstone														
Total	14 580	6 478	3 489	1 505	1 086	c	322		1	0	45	26		1	
Total Aggregates	18 007	6 924	3 819	1 598	1 086	c	337		1	0	52	27		1	

1. 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 2014: South East

Thousand tonnes

Aggregate mineral		Aggregates	Non-aggregates	Total
Sand and gravel	Land won	5 858	794	6 652
	Marine dredged	6 626	0	6 626
	Total	12 484	794	13 278
Crushed rock	Limestone / dolomite	1 603	39	1 643
	Igneous rock			
	Sandstone			
	Chalk	16	26	42
	Ironstone	176	19	195
Total	1 795	84	1 879	
Total Aggregates		14 279	878	15 157
<i>Percent</i>		94%	6%	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	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	4 646	344	867	284	495	61	6	5	12	3			1	
	Marine dredged	6 113	0	513	51	387	75							0	
	Total	10 759	344	1 380	335	882	136	6	5	12	3			1	
Crushed rock	Limestone / dolomite	1 502	4	97	14	2	5	39	37						
	Igneous rock														
	Sandstone														
	Chalk	16													
	Ironstone	130	6	40				20	20						
Total	1 648	10	137	14	2	5	59	57							
Total Aggregates	12 407	354	1 519	350	884	141	65	63	12	3			1		

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

Table 4c: Sales of aggregates and aggregate minerals by region in 2014: London

Thousand tonnes

Aggregate mineral	Aggregates	Non-aggregates	Total
Sand and gravel	Land won	376	376
	Marine dredged	4 678	4 678
	Total	5 054	5 054
Crushed rock	Limestone / dolomite		
	Igneous rock		
	Sandstone		
	Chalk		
	Ironstone		
Total			
Total Aggregates	5 054		5 054
<i>Percent</i>	100%		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	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Europe	
Sand and gravel	Land won	245	131		131											
	Marine dredged	3 392	1 285		329	956					0					
	Total	3 637	1 416		460	956					0					
Crushed rock	Limestone / dolomite															
	Igneous rock															
	Sandstone															
	Chalk															
	Ironstone															
Total																
Total Aggregates	3 637		1 416		460	956					0					

Table 4d: Sales of aggregates and aggregate minerals by region in 2014: East of England

Thousand tonnes

Aggregate mineral		Aggregates	Non-aggregates	Total
Sand and gravel	Land won	11 586	376	11 962
	Marine dredged	350		350
	Total	11 936	376	12 312
Crushed rock	Limestone / dolomite	572		572
	Igneous rock			
	Sandstone	60		60
	Chalk		20	20
	Ironstone			
Total	632	20	652	
Total Aggregates		12 568	396	12 963
<i>Percent</i>		97%	3%	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 Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land won	9 435	126	2 021	0	408	1 001	594	16	1	1	0	0	0	
	Marine dredged	280		70		0	70								
	Total	9 715	126	2 090	0	408	1 070	594	16	1	1	0	0	0	
Crushed rock	Limestone / dolomite	549		23		11	10	1	1			0			
	Igneous rock														
	Sandstone	60		0				0							
	Chalk														
	Ironstone														
Total	609		24		11	10	2	1			0				
Total Aggregates	10 323	126	2 113	0	419	1 080	595	17	1	1	0	0	0		

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

Table 4e: Sales of aggregates and aggregate minerals by region in 2014: East Midlands

		Thousand tonnes		
Aggregate mineral		Aggregates	Non-aggregates	Total
Sand and gravel	Land won	6 600	296	6 897
	Marine dredged			
	Total	6 600	296	6 897
Chalk				

Sales of aggregates within and outside home region

		Thousand tonnes											
		Sales of aggregates outside home region											
		1 830	3	89		405	480	3	850	0	0		
		5 007	1	29	2	253	786	3 506	423	1	1	5	0
		6 568	159	775	888	2 412	1 283	325	551	153	19	2	1
		0					0	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 2014: West Midlands

Thousand tonnes

Aggregate mineral	Aggregates	Non-aggregates	Total
			1 363
<i>rock</i> Chalk			
Ironstone			
Total	3 775	44	3 819
Total Aggregates	9 651	49	9 700
<i>Percent</i>	99%	1%	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	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Europe
<i>Sand and gravel</i>	Land won	5 117	761	52	9		56	500	70	49	1	20	4		
	Marine dredged	0													
	Total	5 117	761	52	9		56	500	70	49	1	20	4		
<i>Crushed rock</i>	Limestone / dolomite	426	33	11	1				2			2	6		
	Igneous rock	1 240		122	2	3	0	30	73	11	0		3	0	
	Sandstone	1 146		793	1	64	71	51	193	344	53	1	15		
	Chalk														
	Ironstone														
Total	2 812	33	927	4	66	72	81	267	357	53		3	24	0	
Total Aggregates	7 929	33	1 689	56	75	72	138	767	428	101	1	23	28	0	

Table 4g Sales of aggregates and aggregate minerals by region in 2014: North West

Thousand tonnes

Aggregate mineral	Aggregates	Non-aggregates	Total
Chalk			
Ironstone			

Sales of aggregates within and outside home region

Thousand tonnes

	Sales of aggregates outside home region								
	Total sales								
301									
301									
	128			0	78	48			2
	123	0	0	15	1	29	75		3
	60			34	1	15	10		0
	312	0	0	49	3	122	133		5
301									

1. Limited information was received on sales of marine sand and gravel in the region. Crown Estate landings (not all sold) were 206 504 tonnes. This figure is not included in this or any other table.

Table 4h Sales of aggregates and aggregate minerals by region in 2014: Yorkshire and the Humber

Thousand tonnes

Aggregate mineral		Aggregates	Non-aggregates	Total
Sand and gravel	Land won	2 509	c	c
	Marine dredged			
	Total	2 509	c	c
Crushed rock	Limestone / dolomite	7 677	536	8 213
	Igneous rock			
	Sandstone	1 314	59	1 373
	Chalk	49	42	91
	Ironstone			
	Total	9 040	637	9 677
Total Aggregates		11 549	c	c
<i>Percent</i>		<i>c</i>	<i>c</i>	<i>c</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region												
			Total sales	South West	South East	London	East of England	East Midlands	West Midlands	North West	North East	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land won	2 103	0	405					59		12	334		0	
	Marine dredged														
	Total	2 103	0	405					59		12	334		0	
Crushed rock	Limestone / dolomite	6 340		1 338		0		5	488	11	449	382		0	3
	Igneous rock														
	Sandstone	878		436	1	3	0	2	14	7	387	14	3		5
	Chalk	25		24				24							
	Ironstone														
	Total	7 243		1 797	1	3	0	31	502	18	836	396	3	0	7
Total Aggregates		9 346	0	2 202	1	3	0	31	561	18	848	730	3	0	7

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

Table 4i Sales of aggregates and aggregate minerals by region in 2014: North East

Thousand tonnes

Aggregate mineral	Aggregates	Non-aggregates	Total	
Sand and gravel	Land won	873	c	c
	Marine dredged	537		537
	Total	1 410	c	c
Crushed rock	Limestone / dolomite	2 881	1 065	3 946
	Igneous rock	1 281	1	1 282
	Sandstone	3	4	7
	Chalk			
	Ironstone			
	Total	4 165	1 070	5 235
Total Aggregates	5 575	c	c	
<i>Percent</i>	c	c	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	South Wales	North Wales	Scotland	Europe
Sand and gravel	Land won	746	128									125			3
	Marine dredged	528	9								0	8			1
	Total	1 274	136								0	133			3
Crushed rock	Limestone / dolomite	2 506	375									26	349		0
	Igneous rock	1 150	132	0	0	1	1	15	1	18	37	0		2	57
	Sandstone	3													
	Chalk														
	Ironstone														
	Total	3 658	507	0	0	1	1	15	1	44	386	0		2	57
Total Aggregates	4 932	643	0	0	1	1	15	1	44	519	0		5	57	

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

Table 4j Sales of aggregates and aggregate minerals by region in 2014: South Wales

Thousand tonnes

Aggregate mineral				
<i>gravel</i>	Land won	205	112	317
	Marine dredged	1 013	141	1 154
	Total	1 218	253	1 471
	Chalk			
	Ironstone			

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region												
			Total sales	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	North Wales	Scotland	Europe
<i>Sand and gravel</i>	Land won	205													
	Marine dredged	1 011	2	2	0				0		0				
	Total	1 216	2	2	0				0		0				
<i>Crushed rock</i>	Limestone / dolomite	4 208	332	44	16	0	17	8	238	4	1	3	0	1	
	Igneous rock	748	829	56	28	3	3	10	528	130	2		69		
	Sandstone	857	852	281	57	170	101	15	212	8	8	0	0		
	Chalk														
	Ironstone														
Total	5 813	2 013	381	100	173	121	34	978	142	11	3	69	1		
Total Aggregates	7 029	2 014	382	100	173	121	34	978	142	11	3	69	1		

Table 4k Sales of aggregates and aggregate minerals by region in 2014: North Wales

Thousand tonnes

Aggregate mineral		Aggregates	Non-aggregates	Total
Sand and gravel	Land won	897	3	900
	Marine dredged	30		30
	Total	927	3	930
Crushed rock	Limestone / dolomite	3 508	708	4 217
	Igneous rock	660		660
	Sandstone		0	0
	Chalk			
	Ironstone			
	Total	4 168	708	4 876
Total Aggregates		5 095	711	5 806
<i>Percent</i>		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	739	158							18	140				
	Marine dredged	30													
	Total	769	158							18	140				
Crushed rock	Limestone / dolomite	1 252	2 226		38		12			29	2 077			1	69
	Igneous rock	605	54							0	54			0	
	Sandstone										0				
	Chalk										0				
	Ironstone										0				
	Total	1 857	2 280		38		12			29	2 131			1	69
Total Aggregates		2 626	2 438		38		12		47	2 271			1	69	

1. In addition 0.46 million tonnes of slate were used for aggregate.

Table 5a Consumption of primary aggregates by region in 2014: South West

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land won	349	2 841	3 190
	Marine dredged	53	586	638
	Total	402	3 427	3 828
Crushed rock	Limestone / dolomite	60	12 359	12 418
	Igneous rock	244	1 769	2 012
	Sandstone	283	453	736
	Chalk			
	Ironstone			
	Total	587	14 580	15 167
Total Aggregates		988	18 007	18 995
<i>Percent</i>		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	349	284		0	3	52	10					
	Marine dredged	53	51								2		
	Total	402	335		0	3	52	10			2		
Crushed rock	Limestone / dolomite	60	14			1	1				44		
	Igneous rock	244				159	2			0	56		27
	Sandstone	283					1		1		281		
	Chalk												
	Ironstone												
	Total	587	14				159	4		1	0	381	
Total Aggregates		988	350			162	56	10	1	0	382		27

Table 5b Consumption of primary aggregates by region in 2014: South East

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land won	976	4 646	5 623
	Marine dredged	335	6 113	6 448
	Total	1 311	10 759	12 071
Crushed rock	Limestone / dolomite	3 457	1 502	4 959
	Igneous rock	1 863		1 863
	Sandstone	158		158
	Chalk		16	16
	Ironstone		130	130
	Total	5 478	1 648	7 126
Total Aggregates		6 790	12 407	19 197
<i>Percent</i>		35%	65%	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	976	324	131	408	89	9	15					
	Marine dredged	335	6	329	0						0		
	Total	1 311	330	460	408	89	9	15			0		
Crushed rock	Limestone / dolomite	3 457	3 277		11	29			0		16	38	87
	Igneous rock	1 863	206			775	3			0	28		851
	Sandstone	158	6				64		3		57		29
	Chalk												
	Ironstone												
	Total	5 478	3 489		11	804	66		3	0	100	38	966
Total Aggregates		6 790	3 819	460	419	893	75	15	3	0	100	38	966

Table 5c Consumption of primary aggregates by region in 2014: London

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land won	1 590	245	1 834
	Marine dredged	456	3 392	3 849
	Total	2 046	3 637	5 683
Crushed rock	Limestone / dolomite	1 520		1 520
	Igneous rock	1 779		1 779
	Sandstone	591		591
	Chalk			
	Ironstone			
Total	3 890		3 890	
Total Aggregates		5 935	3 637	9 573
<i>Percent</i>		62%	38%	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	1 590	93	495	1 001			1					
	Marine dredged	456		387	70								
	Total	2 046	93	882	1 070			1					
Crushed rock	Limestone / dolomite	1 520	1 505	2	10	2					0		
	Igneous rock	1 779				888	0	0		1	3		886
	Sandstone	591					71			0	170		350
	Chalk												
	Ironstone												
Total	3 890	1 505	2	10	890	72	0	1	1	173		1 236	
Total Aggregates		5 935	1 598	884	1 080	890	72	1		1	173		1 236

Table 5d Consumption of primary aggregates by region in 2014: East of England

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land won	530	9 435	9 965
	Marine dredged	1 031	280	1 311
	Total	1 562	9 715	11 276
Crushed rock	Limestone / dolomite	1 378	549	1 927
	Igneous rock	2 676		2 676
	Sandstone	154	60	214
	Chalk	24		24
	Ironstone			
Total	4 233	609	4 841	
Total Aggregates		5 794	10 323	16 118
<i>Percent</i>		36%	64%	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	530	0	61		405	56	8					
	Marine dredged	1 031		75	956								
	Total	1 562	0	136	956	405	56	8					
Crushed rock	Limestone / dolomite	1 378	1 085	5		253			5	0	17	12	
	Igneous rock	2 676	0			2 412	30	0		1	3		230
	Sandstone	154					51		2		101		
	Chalk	24							24				
	Ironstone												
Total	4 233	1 086	5		2 665	81	0	31	1	121	12	230	
Total Aggregates		5 794	1 086	141	956	3 070	138	8	31	1	121	12	230

Table 5e Consumption of primary aggregates by region in 2014: East Midlands

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land won	1 173	4 505	5 678
	Marine dredged			
	Total	1 173	4 505	5 678
Crushed rock	Limestone / dolomite	538	4 951	5 489
	Igneous rock	117	6 196	6 313
	Sandstone	256	2	258
	Chalk			
	Ironstone	20	60	80
	Total	931	11 210	12 141
Total Aggregates		2 104	15 714	17 819
<i>Percent</i>		12%	88%	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	1 173	0	6		594	500	14	59				
	Marine dredged												
	Total	1 173	0	6		594	500	14	59				
Crushed rock	Limestone / dolomite	538	2	39		1		0	488		8		
	Igneous rock	117	3				73	15		15	10		
	Sandstone	256				0	193	34	14		15		
	Chalk												
	Ironstone	20		20									
	Total	931	4	59		2	267	49	502	15	34		
Total Aggregates		2 104	4	65		595	767	63	561	15	34		

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

Table 5f Consumption of primary aggregates by region in 2014: West Midlands

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land won	633	5 117	5 750
	Marine dredged	4		4
	Total	636	5 117	5 753
Crushed rock	Limestone / dolomite	1 386	426	1 812
	Igneous rock	1 851	1 240	3 091
	Sandstone	220	1 146	1 366
	Chalk			
	Ironstone	20		20
	Total	3 477	2 812	6 289
Total Aggregates		4 113	7 929	12 043
<i>Percent</i>		34%	66%	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	633	11	5		16	480	102		0		18	
	Marine dredged	4	3					0			0		
	Total	636	14	5		16	480	102		0	0	18	
Crushed rock	Limestone / dolomite	1 386	285	37		1	786		11		238	29	
	Igneous rock	1 851	37				1 283	1		1	528	0	
	Sandstone	220	0				0	1	7		212		
	Chalk												
	Ironstone	20		20									
	Total	3 477	322	57		1	2 069	3	18	1	978	29	
Total Aggregates		4 113	337	63		17	2 549	105	18	1	978	47	

Table 5g Consumption of primary aggregates by region in 2014: North West

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land won	239	1 760	2 000
	Marine dredged	0	87	87
	Total	240	1 847	2 087
Crushed rock	Limestone / dolomite	6 063	3 578	9 640
	Igneous rock	938	204	1 141
	Sandstone	740	1 754	2 494
	Chalk			
	Ironstone			
	Total	7 740	5 535	13 276
Total Aggregates		7 980	7 383	15 363
<i>Percent</i>		52%	48%	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	239	0	12		1	3	70	12			140	
	Marine dredged	0								0			
	Total	240	0	12		1	3	70	12	0		140	
Crushed rock	Limestone / dolomite	6 063					3 506	2	449	26	4	2 077	
	Igneous rock	938					325	11		18	130	54	400
	Sandstone	740					0	344	387		8		
	Chalk												
	Ironstone												
	Total	7 740						3 831	357	836	44	142	2 131
Total Aggregates		7 980	0	12		1	3 834	428	848	44	142	2 271	400

Table 5h consumption of primary aggregates by region in 2014: Yorkshire and the Humber

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land won	1 146	2 103	3 249
	Marine dredged	8		8
	Total	1 154	2 103	3 257
Crushed rock	Limestone / dolomite	852	6 340	7 191
	Igneous rock	838		838
	Sandstone	75	878	953
	Chalk		25	25
	Ironstone			
	Total	1 765	7 243	9 007
Total Aggregates		2 919	9 346	12 265
<i>Percent</i>		24%	76%	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	1 146	1	3		1	850	49	118	125			
	Marine dredged	8			0					8	0		
	Total	1 154	1	3	0	1	850	49	118	133	0		
Crushed rock	Limestone / dolomite	852	0				423		78	349	1		
	Igneous rock	838	1				551	0	29	37	2		218
	Sandstone	75						53	15		8		
	Chalk												
	Ironstone												
	Total	1 765	1					974	53	122	386	11	
Total Aggregates		2 919	1	3		1	1 825	101	240	519	11		218

Table 5i Consumption of primary aggregates by region in 2014: North East

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land won	351	746	1 097
	Marine dredged		528	528
	Total	351	1 274	1 625
Crushed rock	Limestone / dolomite	435	2 506	2 940
	Igneous rock	377	1 150	1 527
	Sandstone	24	3	27
	Chalk			
	Ironstone			
	Total	835	3 658	4 494
Total Aggregates		1 186	4 932	6 118
<i>Percent</i>		19%	81%	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	351				0		1	16	334	0		
	Marine dredged												
	Total	351				0		1	16	334	0		
Crushed rock	Limestone / dolomite	435	0			0	1		48	382	3		
	Igneous rock	377					153		75		0		148
	Sandstone	24							10	14			
	Chalk												
	Ironstone												
	Total	835	0			0	154		133	396	3		148
Total Aggregates		1 186	0			0	154	1	149	730	3		148

Table 5j Consumption of primary aggregates by region in 2014: South Wales

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land won	42	205	247
	Marine dredged	0	1 011	1 011
	Total	42	1 216	1 258
Crushed rock	Limestone / dolomite	56	4 208	4 265
	Igneous rock	19	748	767
	Sandstone	4	857	861
	Chalk			
	Ironstone			
	Total	79	5 813	5 892
Total Aggregates		121	7 029	7 150
<i>Percent</i>		2%	98%	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	42	7	1		0		20	15				
	Marine dredged	0	0	0									
	Total	42	7	1		0		20	15				
Crushed rock	Limestone / dolomite	56	45				1	2				1	7
	Igneous rock	19					19				0	0	
	Sandstone	4					0	1		3			
	Chalk												
	Ironstone												
	Total	79	45				19	3		3	0	1	7
Total Aggregates		121	52	1		0	19	23	15	3	0	1	7

Table 5k Consumption of primary aggregates by region in 2014: North Wales

Thousand tonnes

Aggregate mineral		Imports	Sales within Region	Total consumption
Sand and gravel	Land won	23	739	762
	Marine dredged	22	30	52
	Total	46	769	815
Crushed rock	Limestone / dolomite	38	1 252	1 290
	Igneous rock	74	605	679
	Sandstone	15		15
	Chalk			
	Ironstone			
	Total	126	1 857	1 983
Total Aggregates		172	2 626	2 798
<i>Percent</i>		6%	94%	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	23				0		4	19	0			
	Marine dredged	22	0						22				
	Total	46	0			0		4	41	0			
Crushed rock	Limestone / dolomite	38	26				5	6		0			
	Igneous rock	74					2	3				69	
	Sandstone	15						15					
	Chalk												
	Ironstone												
	Total	126	26				7	24		0		69	
Total Aggregates		172	27			0	7	28	41	0		69	

Table 6 Summary of sales of primary aggregates (sand & gravel and crushed rock) by major end use in 2014

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	5 429	8 310	3 181	6 582	8 381	3 572	1 637	4 168	1 550	42 808	1 651	1 452	3 103	45 911
Building/asphalting sand	763	1 565	95	1 669	603	577	874	292	407	6 845	687	112	798	7 644
Roadstone/gravel coated for asphalt	1 567	40	7	103	5 473	1 801	800	1 565	579	11 935	2 238	390	2 628	14 562
Roadstone, uncoated	3 414	182			5 998	772	598	1 738	1 031	13 734	736	944	1 680	15 414
Other screened and graded aggregates	10 119	2 098	1 440	1 103	3 905	1 230	1 174	2 106	862	24 037	1 816	1 160	2 976	27 013
Railway ballast	1				2 044	7	151		5	2 207		12	12	2 218
Armourstone and gabion stone	81	51			185	9	189	45	67	628	23	27	51	678
Other construction uses, including fill	3 358	1 495	92	1 706	3 610	1 426	1 549	1 635	1 074	15 944	1 742	999	2 741	18 685
Undifferentiated aggregate use	630	537	240	1 404	209	258	1 447			4 726	150	0	150	4 876
Total Sales	25 362	14 279	5 054	12 568	30 407	9 651	8 419	11 549	5 575	122 864	9 043	5 095	14 138	137 002

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 2014

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	3 278	5 858	376	11 586	6 600	5 877	2 461	2 509	873	39 418	205	897	1 102	40 520
National Park		91								91	120		120	210
AONB	529	494		79		254				1 356				1 356
SSSI	1 000	738		592	218	434		204	433	3 619	2		2	3 621
SPA and SAC	999	709		173					433	2 314	2		2	2 317
Green Belt	287	2 496		1 210		1 383	1 192		7	6 574				6 574
Crushed rock														
All sites	21 439	1 795		632	23 806	3 775	5 849	9 040	4 165	70 501	7 825	4 168	11 994	82 495
National Park	c				2 725		561	2 706	c	6 798	863		863	7 661
AONB	2 585	30				333	94	583	361	3 986		3	3	3 989
SSSI	3 453	120		76	11 730	333	804	3 267	2 243	22 025	1 907	1 962	3 869	25 894
SPA and SAC	736				797		804	1 169	851	4 357		1 962	1 962	6 319
Green Belt	1 327	289					232	2 947	164	4 958				4 958

1. From land-based aggregate quarries only.
2. 'All sites' includes sales from all land-based mineral workings producing primary aggregates in 2014.
3. National Parks include the New Forest, the South Downs and The Broads.
4. Designations are not mutually exclusive, e.g. SSSIs may overlap with others, such as National Parks and AONBs. Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are also SSSIs. They are sub-sets of SSSIs. Some designations, notably SSSIs, may only coincide with a small part of an extant planning permission. However, the total sales for the mineral working are recorded even though there may be no extraction within the designation. The degree of overlap, and the actual or potential impacts of mineral extraction on the conservation interest of the site will vary and are not reflected in the figures.
5. Green Belt is a planning policy designation.

Table 8 Sales of primary aggregates by principal transport method in 2014

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	3 834	15 775	19 609	93	5 499	5 592		116	116	25 316
South East	11 644	2 919	14 563	559	323	881	281	20	301	15 745
London	4 563	666	5 229	491		491				5 720
East of England	11 727	963	12 691	203		203				12 894
East Midlands	6 600	18 643	25 243		5 324	5 324				30 567
West Midlands	5 877	3 773	9 649		0	0				9 650
North West	2 569	6 248	8 817	0	c	c	1		1	c
Yorkshire & the Humber	2 509	8 506	11 016		c	c				c
North East	1 410	4 257	5 666					57	57	5 724
England	50 733	61 749	112 483	1 346	11 897	13 244	282	193	475	126 202
South Wales	1 218	7 567	8 785		300	300				9 085
North Wales	927	4 138	5 065							5 065
Wales	2 145	11 705	13 850		300	300				14 149
England and Wales	52 878	73 455	126 333	1 346	12 197	13 543	282	193	475	140 351

1. Crushed rock imported from outside England and Wales as distributed from wharves is included.
2. Marine sand and gravel as distributed from wharves is included.
3. Figures are based on sales by destination. Because of unallocated sales of unknown destination and small amounts for non-aggregate use being included, there will be differences in some regions compared with product sales.
4. 94.1% of total sales by principal transport method is based on figures supplied by site operators. The remaining 5.9% is based on estimates made by Mineral Planning Authorities.

Table 9a Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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				274	63%					
		South West				96	22%					
		Elsewhere				9	2%					
		Unallocated				54	12%					
	MPA Total					433		67%				
	Cornwall County Council ^(a)	Cornwall								801	66%	
		South West								416	34%	
		Elsewhere								c	c	
	MPA Total									1 218		6%
	Dartmoor National Park ^(b)	Devon								c	98%	
South West									c	2%		
MPA Total									c		c	
Devon County Council ^(b)	Devon		474	89%		35	76%		2 134	90%		
	South West		57	11%		11	24%		223	10%		
	Elsewhere		1	0%					6	0%		
	MPA Total			532		16%	46		7%	2 362		11%
Dorset County Council	Dorset		648	40%		67	72%		172	62%		
	South West		754	47%		26	28%		102	37%		
	Elsewhere		202	13%		0	0%		5	2%		
MPA Total			1 605		49%	93		14%	279		1%	

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

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

Table 9a Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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	328	76%					1 220	81%		
		South West	85	20%					26	2%		
		Elsewhere	17	4%					264	18%		
		Unallocated							0	0%		
	MPA Total			430		13%			1 510		7%	
	North Somerset Council	Avon								1 020	77%	
		South West								215	16%	
		Elsewhere								91	7%	
	MPA Total								1 327		6%	
	Plymouth City Council	Devon								400	82%	
		South West								65	13%	
		Elsewhere								26	5%	
	MPA Total								491		2%	
Somerset County Council	Somerset					76	98%		4 328	35%		
	South West					1	2%		1 772	14%		
	South East								3 151	26%		
	London								1 502	12%		
	East of England								1 084	9%		
	Elsewhere					0	0%		120	1%		
	Unallocated								312	3%		
MPA Total						77		12%	12 269		57%	

Table 9a Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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							69	4%		
		South West							1 676	90%		
		Elsewhere							127	7%		
	MPA Total								1 872		9%	
	Wiltshire County Council	Wiltshire		408	57%					23	52%	
		South West		87	12%					22	48%	
		Elsewhere		216	30%							
		MPA Total			711		22%			45		0%
	AWP Total			3 278		100%	649		100%	21 372		100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.
2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.
3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to **other** regions are included under 'Elsewhere.' For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9b Sales of primary aggregates by MPA and principal destination sub-region in 2014: South East

Thousand tonnes

		Land-won sand and gravel		Marine sand and gravel			
MPA Total			18%				
Buckinghamshire County Council	Buckinghamshire and Milton Keynes	277	41%				
	South East	340	50%				
	Elsewhere	66	10%				
MPA Total		684	12%				
East Sussex C. Council	East Sussex and Brighton & Hove	221	50%	7	40%		
	South East	221	50%	10	60%		
MPA Total		442	8%	16	0%		
Hampshire County Council	Hampshire and the Isle of Wight	598	68%	992	73%		
	South East	127	14%	313	23%		
	Elsewhere	156	18%	51	4%		
	Unallocated	0	0%				
MPA Total		882	15%	1 356	20%		
Isle of Wight Council	Hampshire and the Isle of Wight	69	100%	103	100%	16	100%
MPA Total		69	1%	103	2%	16	
Kent County Council	Kent and Medway	450	80%	1 243	64%	655	85%
	South East	84	15%	255	13%	108	14%
	Elsewhere	31	5%	440	23%	5	1%
MPA Total		565	10%	1 938	29%	767	

Table 9b Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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				1 457	92%				
		South East				107	7%				
		Elsewhere				21	1%				
		MPA Total				1 586		24%			
	Milton Keynes Council	Buckinghamshire and Milton Keynes	78	97%							
		Elsewhere	2	3%							
		MPA Total	81		1%						
	Oxfordshire County Council	Oxfordshire	648	75%					659	66%	
		South East	111	13%					210	21%	
		Elsewhere	110	13%					133	13%	
		Unallocated							4	0%	
		MPA Total	869		15%				1 006		56%
	Surrey County Council	Surrey	381	39%							
		South East	41	4%							
		Elsewhere	212	22%							
		Unallocated	344	35%					6	100%	
		MPA Total	978		17%				6		0%
	West Sussex County Council ^(a)	West Sussex	41	17%			247	15%			
		South East	163	68%			1 380	85%			
		Elsewhere	35	15%							
		MPA Total	239		4%		1 627		25%		
	AWP Total			5 858		100%	6 626		100%	1 795	

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

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

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

a. West Sussex also includes land-won sand and gravel for the South Downs National Park, sales from which were to the South East.

Table 9c Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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	245	65%		3 392	73%				
		Elsewhere	131	35%		1 286	27%				
	MPA Total		376		100%	4 678		100%			
AWP Total			376		100%	4 678		100%			

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.
 2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.
 3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to **other** regions are included under 'Elsewhere.' For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.
- a. East and West London have been combined to maintain confidentiality.

Table 9d Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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	43%								
		East of England	c	20%								
		Elsewhere	c	37%								
	MPA Total		c		c							
	Cambridgeshire County Council ^(b)	Cambridgeshire and Peterborough	1 507	58%						8	14%	
		East of England	455	17%						26	46%	
		Elsewhere	643	25%						23	40%	
	MPA Total		2 605		22%				57		9%	
	Central Bedfordshire Council ^(a)	Bedfordshire	777	56%								
		East of England	233	17%								
		Elsewhere	258	19%								
		Unallocated	120	8%								
MPA Total		1 388		12%								
Essex County Council	Essex, Southend and Thurrock	3 021	69%									
	East of England	472	11%									
	Elsewhere	866	20%									
	Unallocated	6	0%									
MPA Total		4 363		38%								
Hertfordshire C. Council	Hertfordshire	692	57%									
	East of England	265	22%									
	Elsewhere	252	21%									
MPA Total		1 210		10%								

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

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

Table 9d Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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	1 185	87%					58	96%	
		East of England	181	13%					2	3%	
		Elsewhere	2	0%					0	1%	
	MPA Total		1 368		12%				60		10%
	Peterborough ^(b)	Cambridgeshire and Peterborough	c	67%					514	100%	
		East of England	c	3%							
		Elsewhere	c	30%							
	MPA Total		c		c				514		81%
	Suffolk County Council	Suffolk	455	70%			68	100%			
		East of England	193	30%							
MPA Total		648		6%		68		20%			
Thurrock Borough Council	Essex, Southend and Thurrock					212	75%				
	Elsewhere					70	25%				
MPA Total						282		80%			
AWP Total			11 581		100%	350		100%	632		100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.
2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.
3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to **other** regions are included under 'Elsewhere.' For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9e Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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	269	38%					1 694	27%	
		East Midlands	223	31%					326	5%	
		East of England							114	2%	
		West Midlands							268	4%	
		North West							2 262	36%	
		Yorkshire & the Humber							399	6%	
		Elsewhere	164	23%					12	0%	
		Unallocated	55	8%					1 184	19%	
	MPA Total			711		11%			6 259		26%
	Leicestershire County Council	Leicestershire & Rutland	Leicestershire & Rutland	837	58%					5 428	38%
East Midlands			311	21%					1 879	13%	
South East									792	6%	
London									890	6%	
East of England									2 447	17%	
West Midlands									1 494	11%	
North West									325	2%	
Yorkshire & the Humber									552	4%	
Elsewhere			300	21%					338	2%	
MPA Total			1 448		22%			14 145		59%	
Lincolnshire County Council	Lincolnshire	Lincolnshire	826	38%					373	99%	
		East Midlands	842	39%					2	1%	
		Elsewhere	481	22%					2	0%	
MPA Total			2 149		33%			377		2%	

Table 9e Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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	350	67%					142	58%	
		East Midlands	3	1%					73	30%	
		Elsewhere	168	32%					31	13%	
	MPA Total		521		8%				246		1%
	Nottinghamshire County Council	Nottinghamshire	499	28%							
		East Midlands	344	19%							
		Elsewhere	718	41%							
		Unallocated	210	12%							
	MPA Total		1 771		27%						
	Peak District National Park	Derbyshire & Peak District National Park							1 002	37%	
		East Midlands							128	5%	
		West Midlands							306	11%	
		North West							1 244	46%	
		Elsewhere							45	2%	
	MPA Total								2 725		11%
	Rutland CC DC	Leicestershire & Rutland							60	28%	
		East Midlands							102	47%	
		Elsewhere							53	25%	
	MPA Total								215		1%
AWP Total			6 600		100%				23 967		100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.
2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.
3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to **other** regions are included under 'Elsewhere.' For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9f Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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	69	71%					167	51%		
		West Midlands	24	24%					119	36%		
		Elsewhere	4	5%					7	2%		
		Unallocated							33	10%		
	MPA Total			98		2%			326		9%	
	Shropshire County Council	Shropshire	232	37%						1 371	45%	
		West Midlands	355	57%						824	27%	
		Elsewhere	39	6%						885	29%	
	MPA Total			627		11%			3 080		82%	
	Solihull Metropolitan Borough Council	Remainder of West Midlands	281	56%								
		West Midlands	212	42%								
		Elsewhere	6	1%								
	MPA Total			499		8%						
Staffordshire County Council	Staffordshire	1 996	48%						80	98%		
	West Midlands	1 485	36%									
	Elsewhere	662	16%						2	2%		
MPA Total			4 143		70%			82		2%		

Table 9f Sales of primary aggregates by MPA and principal destination sub-region in 2014: West Midlands

Thousand tonnes

Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
West Midlands continued	Warwickshire County Council	Warwickshire	193	69%					205	72%	
		West Midlands	87	31%					47	16%	
		Elsewhere							34	12%	
	MPA Total			280		5%			285		8%
	Worcestershire County Council	Worcestershire	51	22%							
		West Midlands	133	57%							
		Elsewhere	47	21%							
	MPA Total			231		4%					
	AWP Total			5 877		100%			3 773		100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.
2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.
3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to **other** regions are included under 'Elsewhere.' For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9g Sales of primary aggregates by MPA and principal destination sub-region in 2014: North West

Thousand tonnes												
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %	
North West	Cheshire East Council	Cheshire (Cheshire West & Chester and Cheshire East)	66	11%								
		North West	164	28%				c	100%			
		Elsewhere	194	33%								
		Unallocated	169	29%								
	MPA Total		593		24%				c		c	
	Cheshire West & Chester Council	Cheshire (Cheshire West & Chester and Cheshire East)	211	51%								
		North West	107	26%								
		Elsewhere	98	24%								
	MPA Total		417		17%							
	Cumbria County Council	Cumbria	518	77%						1 311	51%	
		North West	62	9%						952	37%	
		Elsewhere	95	14%						292	11%	
	MPA Total		675		27%				2 555		44%	
	Greater Manchester, Merseyside, Halton & Warrington	Greater Manchester, Merseyside, Halton & Warrington	63	24%						231	49%	
		North West	191	72%			87	80%		241	51%	
Elsewhere		12	4%			22	20%					
MPA Total		267		11%	109		100%	472		8%		

Table 9g Wales of primary aggregates by MPA and principal destination sub-region in 2014: 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	188	37%					2 028	72%	
		North West	190	37%					771	27%	
		Elsewhere							21	1%	
		Unallocated	132	26%							
	MPA Total		509		21%				2 820		48%
AWP Total			2 461		100%	109		100%	5 848		100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.
2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.
3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to **other** regions are included under 'Elsewhere.' For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9h Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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							19	100%		
	MPA Total								19		0%	
	Calderdale Metropolitan Borough Council	West Yorkshire							c	100%		
	MPA Total								c		c	
	Doncaster Metropolitan Borough Council	South Yorkshire	Yorkshire & the Humber	9	6%					1 153	51%	
			Yorkshire & the Humber	117	87%					741	33%	
			Elsewhere	9	7%					356	16%	
	MPA Total			135		5%			2 250		25%	
	East Riding of Yorkshire Council ^(a)	East Riding, North Lincolnshire and North East Lincolnshire	Yorkshire & the Humber	119	19%					c	51%	
			Yorkshire & the Humber	462	72%							
			Elsewhere	58	9%					c	49%	
	MPA Total			639		25%			c		c	
	Kirklees Metropolitan Borough Council	West Yorkshire		17	100%					137	100%	
			MPA Total			17		1%		137		2%
Leeds City Council	West Yorkshire								292	85%		
		Yorkshire & the Humber							50	15%		
MPA Total								343		4%		
North Lincolnshire Council ^(a)	Elsewhere		c	100%					95	100%		
		Unallocated	c	0%								
MPA Total			c		c			95		1%		

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

Table 9h Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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	909	53%					1 832	55%		
		Yorkshire & the Humber	470	27%					1 159	35%		
		Elsewhere	339	20%					360	11%		
	MPA Total			1 719		68%			3 350		37%	
	Wakefield M. B. Council	West Yorkshire							c	100%		
	MPA Total								c		c	
	Yorkshire Dales National Park	North Yorks, Yorkshire Dales and North York Moors National Parks								443	16%	
			Yorkshire & the Humber							1 300	48%	
			Elsewhere							963	36%	
	MPA Total								2 706		30%	
AWP Total			2 509		100%			100%	9 040		100%	

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.
2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.
3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to **other** regions are included under 'Elsewhere.' For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9i Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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	39	14%					1 102	41%		
		North East	212	77%					1 136	43%		
		Elsewhere	25	9%					417	16%		
	MPA Total			276		32%			2 655		64%	
	Hartlepool Borough Council	Tees Valley								48	76%	
		North East								12	20%	
		Elsewhere								2	4%	
	MPA Total								63		2%	
	Middlesbrough Borough Council	Tees Valley					194	93%				
		North East					15	7%				
		Elsewhere					0	0%				
	MPA Total						209		39%			
Tyne and Wear	Tyne and Wear		c	16%		109	35%		147	90%		
	North East		c	42%		190	62%		16	10%		
	Elsewhere		c	42%		9	3%					
MPA Total			c		c	308		57%	164		4%	
Northumberland County Council ^(a)	Northumberland and the National Park		84	23%					680	58%		
	North East		274	76%		20	100%		407	35%		
	Elsewhere		3	1%					88	7%		
MPA Total			361		41%	20		4%	1 174		28%	

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

Table 9i Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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	45%		
		North East							c	10%		
		Elsewhere							c	45%		
	MPA Total								c		c	
	Stockton-on-Tees Borough Council	Tees Valley										
		North East										
		Elsewhere										
		Unallocated										
	MPA Total											
	AWP Total			873	100%		537		100%	4 165		100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.
2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.
3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to **other** regions are included under 'Elsewhere.' For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9j Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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 Wales							c	100%		
	MPA Total								c		c	
	Brecon Beacons National Park	Remainder of South Wales								16	2%	
		South Wales								693	98%	
		Elsewhere								0	0%	
	MPA Total								709		9%	
	Bridgend	South East Wales								c	100%	
		South Wales								c	0%	
	MPA Total								c		c	
	Caerphilly	South East Wales								19	54%	
		Elsewhere								16	46%	
	MPA Total								35		0%	
	Cardiff County Council	South East Wales					245	97%		423	39%	
		South Wales					6	2%		657	61%	
		Elsewhere					2	1%		1	0%	
	MPA Total					253		25%	1 081		14%	
	Carmarthenshire	Remainder of South Wales					53	50%		197	23%	
		South Wales		2	100%		53	50%		673	77%	
	MPA Total			2		106		10%	870		11%	

Table 9j Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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	23	28%					112	100%		
		South Wales	60	72%					0	0%		
		Elsewhere							0	0%		
	MPA Total		83		40%				112		1%	
	Monmouthshire ^(a)	South East Wales				c	100%					
	MPA Total					c		c				
	Neath Port Talbot	South East Wales								35	11%	
		South Wales								187	57%	
		Elsewhere								107	32%	
	MPA Total								330		4%	
Newport ^(a)	South East Wales					516	100%					
	South Wales					0	0%					
	Elsewhere					0	0%					
MPA Total					516		51%					
Pembrokeshire (including Pembrokeshire Coast National Park)	Remainder of South Wales		120	100%		13	100%		322	66%		
	South Wales					0	0%		164	34%		
	Elsewhere								1	0%		
MPA Total		120		58%	13		1%	487		2%		

a. Newport also contains marine sand and gravel for Monmouthshire.

Table 9j Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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							659	26%		
		South Wales							168	6%		
		West Midlands										
		North West										
		North Wales										
		Elsewhere							1 753	68%		
	MPA Total								2 580		33%	
	Rhondda, Cynon, Taf (Taff)	South East Wales								528	80%	
		South Wales								0	0%	
		Elsewhere								134	20%	
MPA Total								662		8%		
Swansea (City of)	South East Wales					86	68%					
	South Wales					39	31%					
	Elsewhere					0	0%					
	MPA Total						125		12%			
Vale of Glamorgan	South East Wales								223	65%		
	South Wales								120	35%		
	MPA Total								343		4%	
AWP Total			205	100%		1 013	100%		7 825	100%		

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.
2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.
3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to **other** regions are included under 'Elsewhere.' For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9k Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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							185	25%	
		North Wales							299	40%	
		Elsewhere							256	35%	
	MPA Total							739		18%	
	Flintshire	North East Wales	c	1%					987	33%	
		North Wales	c	94%					0	0%	
		North West							1 944	66%	
		Elsewhere	c	5%					27	1%	
	MPA Total		c		c			2 958		71%	
	Gwynedd	North West Wales	125	59%					c	77%	
North Wales		80	38%		30	100%		c	21%		
Elsewhere		5	2%					c	3%		
MPA Total		210		23%	30	100%	c		c		
Isle of Anglesey ^(a)	North West Wales							310	70%		
	North Wales							76	17%		
	Elsewhere							54	12%		
MPA Total							441		11%		

a. Isle of Anglesey includes crushed rock for Gwynedd.

Table 9k Sales of primary aggregates by MPA and principal destination sub-region in 2014: 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	348	51%							
		North Wales	186	27%							
		Elsewhere	152	22%							
	MPA Total		687		77%						
AWP Total			897		100%	30		100%	4 138		100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.
 2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.
 3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to **other** regions are included under 'Elsewhere.' For those MPAs where this figure exceeds 1 million tonnes, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.
- b. Wrexham includes land-won sand and gravel for Flintshire.

Table 10 Imports of primary aggregates by sub-region in 2014

Thousand tonnes

Region	Sub-region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregates
South West	West of England (Avon)	124	3	127	218	346
	Cornwall and Isles of Scilly	2	11	13	83	96
	Devon, Plymouth, Torbay and Dartmoor Nat. Park	84	1	85	524	610
	Dorset	84	1	85	260	345
	Gloucestershire	215	28	243	1 429	1 672
	Somerset	448	3	450	474	924
	Wiltshire	131	74	205	1 116	1 321
	Unknown in the South West	243	67	310	896	1 206
	Total	1 332	188	1 519	5 001	6 520
South East	Berkshire	353	152	505	1 161	1 666
	Buckinghamshire and Milton Keynes	433		433	486	919
	East Sussex and Brighton and Hove	42	650	692	280	972
	Hampshire and the Isle of Wight	215	45	260	895	1 155
	Kent and Medway	248	225	473	1 094	1 566
	Oxfordshire	111	6	117	787	904
	Surrey	382	237	619	304	923
	West Sussex	58	94	152	761	912
	Unknown in the South East	769	992	1 761	28	1 789
	Total	2 612	2 400	5 012	5 795	10 807
London	East London	828	430	1 258	679	1 937
	West London	633	1 140	1 773	2 029	3 802
	Unknown in Greater London	128	461	589	1 182	1 771
	Total	1 590	2 030	3 620	3 890	7 510
East of England	Bedfordshire (Central Bedfordshire, Bedford and Luton)	497	24	521	584	1 105
	Cambridgeshire and Peterborough	553	4	557	878	1 435
	Essex, Southend and Thurrock	113	984	1 097	1 525	2 621
	Hertfordshire	434	19	454	591	1 044
	Norfolk	155		155	250	406
	Suffolk	391	0	392	395	787
	Unknown in the East of England	184		184	38	222
	Total	2 329	1 031	3 360	4 261	7 621
East Midlands	Derbyshire and Peak District National Park	356		356	541	896
	Leicestershire and Rutland	573		573	278	850

Table 10 Imports of primary aggregates by sub-region in 2014

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	163		163	446	609
	Northamptonshire	757		757	900	1 658
	Nottinghamshire	533		533	1 264	1 797
	Unknown in the East Midlands	513		513	14	527
	Total	2 895		2 895	3 441	6 337
West Midlands	Herefordshire	83	1	85	533	618
	Remainder of West Midlands	1 065		1 065	1 053	2 118
	Shropshire and Telford and Wrekin	111		111	654	765
	Staffordshire	106	0	106	960	1 066
	Warwickshire	282	0	282	659	941
	Worcestershire	146	2	148	540	689
	Unknown in the West Midlands Region	1 135		1 135	66	1 201
	Total	2 929	4	2 932	4 466	7 398
North West	Cheshire (Cheshire West & Chester and Cheshire East)	135	36	171	2 059	2 230
	Cumbria and Lake District National Park	3		3	209	212
	Greater Manchester, Merseyside, Halton & Warrington	214		214	3 233	3 447
	Lancashire	183	49	232	1 298	1 529
	Unknown in the North West	420		420	2 907	3 326
	Total	954	84	1 038	9 705	10 744
	Yorkshire & the Humber	Humber (East Riding, North Lincolnshire and North East Lincolnshire)	305		305	700
North Yorks, Yorkshire Dales and North York Moors National Parks		207	8	215	526	741
South Yorkshire		751		751	971	1 722
West Yorkshire		685	0	686	1 997	2 683
Unknown in Yorkshire & the Humber		247		247	822	1 068
Total		2 195	8	2 203	5 015	7 218
North East	Durham	248	141	389	399	787
	Northumberland and the National Park	16	9	26	218	243
	Tees Valley	175	1	176	668	844
	Tyne and Wear	251	31	282	964	1 246
	Unknown in the North East	247	42	289	159	448
	Total	937	225	1 162	2 407	3 569
England		17 772	5 970	23 742	43 981	67 723

Table 10 Imports of primary aggregates by sub-region in 2014

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	23	27	50	223	273
	South East Wales	4	53	57	778	835
	Unknown in South Wales	77	19	96	1 910	2 005
	Total	104	99	203	2 911	3 114
North Wales	North East Wales	8	13	20	152	172
	North West Wales	18	10	28	243	271
	Unknown in North Wales	264	30	294	106	400
	Total	290	52	342	501	843
Wales		394	151	545	3 412	3 957
England and Wales		18 166	6 121	24 287	47 393	71 680

1. Figures for imports by sub-region cannot be compared with imports by region (Tables 3 and 5). The latter show only inter-regional flows of primary aggregates. This table of imports by sub-region includes not only imports from other regions (inter-regional flows) but also flows from sub-region to sub-region within the same region.
2. In the case of sales of marine sand and gravel and crushed rock, imports are only shown where material has been moved outside the home sub-region where the wharf is located.
3. The sub-regions used for AM2014 are shown on Map 3.

Table 11 Consumption of primary aggregates by sub region in 2014

Thousand tonnes

Region	Sub-region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregates
South West	West of England (Avon)	124	277	401	1 308	1 709
	Cornwall and Isles of Scilly	2	11	13	884	897
	Devon, Plymouth, Torbay and Dartmoor Nat. Park	559	36	595	3 058	3 652
	Dorset	732	68	800	432	1 232
	Gloucestershire	544	28	571	2 648	3 219
	Somerset	448	79	526	4 801	5 328
	Wiltshire	539	74	613	1 140	1 752
	Unknown in the South West	243	67	310	896	1 206
	Total	3 190	638	3 828	15 167	18 995
South East	Berkshire	601	152	752	1 161	1 913
	Buckinghamshire and Milton Keynes	789		789	486	1 275
	East Sussex & Brighton and Hove	263	657	920	280	1 200
	Hampshire & Isle of Wight	882	1 140	2 022	912	2 933
	Kent and Medway	698	2 925	3 623	1 748	5 371
	Oxfordshire	759	6	765	1 447	2 212
	Surrey	763	237	1 000	304	1 304
	West Sussex	99	340	439	761	1 200
	Unknown in the South East	769	992	1 761	28	1 789
	Total	5 623	6 448	12 071	7 126	19 197
London	East London	942	2 249	3 190	679	3 869
	West London	764	1 140	1 904	2 029	3 933
	Unknown in Greater London	128	461	589	1 182	1 771
	Total	1 834	3 849	5 683	3 890	9 573
East of England	Bedfordshire (Central Bedfordshire, Bedford and Luton)	1 275	24	1 299	584	1 882
	Cambridgeshire and Peterborough	2 059	4	2 063	1 400	3 464
	Essex, Southend and Thurrock	3 133	1 195	4 329	1 525	5 854
	Hertfordshire	1 126	19	1 146	591	1 737
	Norfolk	1 341		1 341	308	1 649
	Suffolk	846	69	915	395	1 310
	Unknown in the East of England	184		184	38	222
	Total	9 965	1 311	11 276	4 841	16 118
East Midlands	Derbyshire and Peak District National Park	625		625	3 237	3 862
	Leicestershire and Rutland	1 410		1 410	5 766	7 176

Table 11 Consumption of primary aggregates by sub region in 2014

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	989		989	819	1 808
	Northamptonshire	1 108		1 108	1 042	2 150
	Nottinghamshire	1 032		1 032	1 264	2 296
	Unknown in the East Midlands	513		513	14	527
	Total	5 678		5 678	12 141	17 819
West Midlands	Herefordshire	153	1	154	700	854
	Remainder of West Midlands	1 346		1 346	1 053	2 399
	Shropshire and Telford and Wrekin	343		343	2 025	2 368
	Staffordshire	2 101	0	2 102	1 040	3 141
	Warwickshire	475	0	475	865	1 339
	Worcestershire	197	2	199	540	740
	Unknown in the West Midlands Region	1 135		1 135	66	1 201
Total	5 750	4	5 753	6 289	12 043	
North West	Cheshire (Cheshire West & Chester and Cheshire East)	412	36	448	2 059	2 507
	Cumbria and Lake District National Park	521		521	1 520	2 041
	Greater Manchester, Merseyside Halton & Warrington	277	3	280	3 465	3 744
	Lancashire	371	49	419	3 326	3 745
	Unknown in the North West	420		420	2 907	3 326
	Total	2 000	87	2 087	13 276	15 363
Yorkshire & the Humber	Humber (East Riding, North Lincolnshire and North East Lincolnshire)	424		424	724	1 149
	North Yorks, Yorkshire Dales and North York Moors National Parks	1 116	8	1 125	2 801	3 926
	South Yorkshire	760		760	2 124	2 884
	West Yorkshire	702	0	702	2 536	3 238
	Unknown in Yorkshire & the Humber	247		247	822	1 068
Total	3 249	8	3 257	9 007	12 265	
North East	Durham	287	141	428	1 500	1 928
	Northumberland and the National Park	100	9	109	898	1 007
	Tees Valley	175	195	370	715	1 085
	Tyne and Wear	288	141	429	1 221	1 650
	Unknown in the North East	247	42	289	159	448
Total	1 097	528	1 625	4 494	6 118	
England		38 385	12 874	51 259	76 230	127 489

Table 11 Consumption of primary aggregates by sub region in 2014

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	166	92	258	1 530	1 788
	South East Wales	4	900	904	2 453	3 357
	Unknown in South Wales	77	19	96	1 910	2 005
	Total	247	1 011	1 258	5 892	7 150
North Wales	North East Wales	356	13	368	1 323	1 691
	North West Wales	143	10	152	554	706
	Unknown in North Wales	264	30	294	106	400
	Total	762	52	815	1 983	2 798
Wales		1 010	1 063	2 073	7 875	9 948
England and Wales		39 395	13 937	53 332	84 105	137 438

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

2. The sub-regions used for AM2014 are shown on Map 3.

Table 12 Permitted reserves of land-won primary aggregates in active and inactive sites at 31 December 2014

Region	Sand and Gravel					Crushed Rock					Grand total (Excluding dormant)
	Active sites	Inactive: worked in past	Inactive: yet to be worked	Total	(Dormant sites)	Active sites	Inactive: worked in past	Inactive: yet to be worked	Total	(Dormant sites)	
	Thousand tonnes										
South West	15 696	8 704	4 524	28 924		672 346	145 323		817 669	294 068	846 593
South East	45 491	7 993	13 730	67 214	310	52 170	1		52 171		119 385
London	691	11		702							702
East of England	101 528	4 854	17 206	123 588	2 460	3 707	1 100		4 807		128 395
East Midlands	34 167	7 048	18 472	59 687	9 723	795 685	119 453	3 455	918 592	20 291	978 279
West Midlands	70 560	17 362	900	88 822	12 070	218 759	50 160		268 919	36 090	357 741
North West	20 773	607	4 100	25 480	2 678	254 865	2 952		257 817	14 846	283 298
Yorkshire & the Humber	21 356	3 453	400	25 209		223 671	15 563		239 233	500	264 442
North East	10 192	4 836	3 170	18 198		145 258	73 864	600	219 723		237 920
England	320 454	54 867	62 502	437 823	27 241	2 366 462	408 415	4 055	2 778 932	365 794	3 216 756
(%)	95%	99%	99%	96%	95%	84%	65%	35%	81%	93%	82%
South Wales	3 392			3 392	350	315 596	188 543	7 676	511 814	25 591	515 206
North Wales	14 991	500	600	16 091	1 025	130 658	26 934		157 592	1 450	173 683
Wales	18 383	500	600	19 483	1 375	446 253	215 477	7 676	669 406	27 041	688 889
(%)	5%	1%	1%	4%	5%	16%	35%	65%	19%	7%	18%
England and Wales	338 837	55 367	63 102	457 306	28 616	2 812 715	623 892	11 731	3 448 338	392 835	3 905 645

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. 94.1% of total reserves is based on figures supplied by site operators. The remaining 5.9% 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 2014

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	28 924	67 214	702	123 588	59 687	88 822	25 480	25 209	18 198	437 823	3 392	16 091	19 483	457 306
National Park		2 131								2 131	2 657		2 657	4 788
AONB	1 190	5 964		650		13 000				20 804		1 100	1 100	21 904
SSSI	6 049	5 815		3 022	512	17 464		3 836	5 931	42 628	100		100	42 728
SPA and SAC	5 679	3 446		541					4 148	13 814	100		100	13 914
Green Belt		33 556		15 680		29 366	4 176		2 480	88 537				88 537
Crushed rock														
All sites	817 669	52 171		4 807	918 592	268 919	257 817	239 233	219 723	2 778 932	511 814	157 592	669 406	3 448 338
National Park	c				94 374		33 883	85 310	c	239 476	111 853		111 853	351 329
AONB	185 572	3 072			2 697	13 376	11 717	16 513	21 623	254 570		5 006	5 006	259 576
SSSI	175 122	400		758	299 295	13 376	44 012	119 550	102 129	754 644	68 842	52 720	121 562	876 206
SPA and SAC	27 774				11 628		44 011	36 934	40 571	160 919	1 176	37 765	38 941	199 861
Green Belt	37 996	31 550				22 420	11 000	54 727		158 443				158 443

1. For aggregate use only.
2. Dormant sites are **not** included.
3. Designations are not mutually exclusive, e.g. SSSIs may overlap with others, such as National Parks and AONBs. Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are also SSSIs. They are sub-sets of SSSIs. Some designations, notably SSSIs, may only coincide with a small part of an extant planning permission. However, the total sales for the mineral working are recorded even though there may be no extraction within the designation. The degree of overlap, and the actual or potential impacts of mineral extraction on the conservation interest of the site will vary and are not reflected in the figures.
4. Green Belt is a planning policy designation.
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 2010 and 2014

Thousand tonnes

Region	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	No. of sites	Thousand tonnes	No. of sites	Thousand tonnes	No. of sites
South West	7 744	12	15 950	5	23 694	17
South East	27 458	28	10 523	3	37 981	31
London						
East of England	43 921	37	3 340	2	47 261	39
East Midlands	20 109	20	146 424	11	166 532	31
West Midlands	22 578	8	22 413	3	44 991	11
North West	8 848	6	3 955	10	12 803	16
Yorkshire & the Humber	9 380	10	32 835	12	42 215	22
North East	5 714	7	25 531	11	31 245	18
England	145 751	128	260 970	57	406 721	185
South Wales	2 350	2	16 956	17	19 306	19
North Wales	600	1	3 000	2	3 600	3
Wales	2 950	3	19 956	19	22 906	22
England and Wales	148 701	131	280 926	76	429 627	207

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, four permissions were granted containing a total of 12.7 million tonnes of slate.

Table 15 Total quantity of primary aggregates refused planning permission between 2010 and 2014

Thousand tonnes

Region	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	No. of sites	Thousand tonnes	No. of sites	Thousand tonnes	No. of sites
South West	98	1			98	1
South East	1 665	3			1 665	3
London						
East of England	8 593	7			8 593	7
East Midlands			125	1	125	1
West Midlands	1 420	1			1 420	1
North West						
Yorkshire & the Humber						
North East						
England	11 776	12	125	1	11 901	13
South Wales						
North Wales						
Wales						
England and Wales	11 776	12	125	1	11 901	13

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, one permission was refused containing a total of 0.15 million tonnes of slate.

Table 16 Total quantity of primary aggregates currently awaiting planning permission decision between 2010 and 2014

Thousand tonnes

Region	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	No. of sites	Thousand tonnes	No. of sites	Thousand tonnes	No. of sites
South West	6 444	4	19 943	4	26 387	8
South East	13 268	8	72	1	13 340	9
London						
East of England	7 283	7	1 200	1	8 483	8
East Midlands	8 378	5	23 822	4	32 200	9
West Midlands	8 787	5			8 787	5
North West	9 000	1	10 070	3	19 070	4
Yorkshire & the Humber	21 486	5	6 831	7	28 317	12
North East	550	1	2 200	1	2 750	2
England	75 196	36	64 137	21	139 333	57
South Wales			40 456	4	40 456	4
North Wales						
Wales			40 456	4	40 456	4
England and Wales	75 196	36	104 593	25	179 789	61

1. As at 31 December 2014.

2. Includes planning permissions awaiting a Section 106 Agreement.

3. North West excludes an application submitted in 2008 and currently awaiting a decision (5.2 million tonnes). South Wales excludes an application submitted in 2003 and currently awaiting a decision (0.5 Mt).

Table 17 Total quantity of primary aggregates withdrawn from the planning application process between 2010 and 2014

Thousand tonnes

Region	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	No. of sites	Thousand tonnes	No. of sites	Thousand tonnes	No. of sites
South West	300	1			300	1
South East	6 376	5			6 376	5
London						
East of England	970	2			970	2
East Midlands	120	1			120	1
West Midlands						
North West						
Yorkshire & the Humber						
North East						
England	7 766	9			7 766	9
South Wales						
North Wales						
Wales						
England and Wales	7 766	9			7 766	9

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 2014

Region	Quarry						Marine wharf	
	Limestone	Igneous rock	Sandstone	Chalk	Ironstone	Sand & gravel	Sand & gravel	Crushed rock
South West	30	10	9			27	8	2
South East	15			4	3	56	24	11
London						2	9	6
East of England	2		3	2		77	3	1
East Midlands	42	4	13	1	1	38		
West Midlands	4	3	2		1	28		
North West	16	4	20			28	1	1
Yorkshire & the Humber	23		25	3		13	1	1
North East	12	8	2			8	4	2
England	144	29	74	10	5	283	50	24
South Wales	22	8	20			7	11	1
North Wales	9	6				6	2	
Wales	31	14	20			13	13	1
England and Wales	175	43	94	10	5	296	63	25

Table A1 Sales of land-won sand and gravel by product (end use) in 2014

Product	Thousand tonnes													
	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Sand														
Sand for asphalt	61	218		295	216	66	76	20	104	1 057	1	10	10	1 067
Sand for use in mortar (building sand)	497	1 262	0	1 374	387	511	755	272	287	5 346	71	72	143	5 489
Sand for concreting	1 459	1 447	105	4 021	2 693	1 994	693	1 067	292	13 772	71	399	470	14 242
Gravel														
Gravel for asphalt (on or off site)	17			45	12	3		5		83				83
Gravel for concrete aggregate	581	1 689	124	2 224	1 429	1 409	8	339	82	7 883	24	172	196	8 079
Other screened and graded gravels for other aggregate purposes	453	863	78	1 091	1 083	807	69	559	53	5 056	20	176	196	5 252
Sand and gravel														
Sand and gravel for constructional fill	209	344	68	1 646	638	862	424	248	55	4 495	18	68	86	4 580
Undifferentiated aggregate use	0	35		889	143	225	435			1 727				1 727
Total for aggregate use	3 278	5 858	376	11 586	6 600	5 877	2 461	2 509	873	39 418	205	897	1 102	40 520
Total for all non-aggregate use	129	794		376	296	5	1 113	c	c	2 780	112	3	115	2 895
Total for all uses	3 407	6 652	376	11 962	6 897	5 881	3 574	c	c	42 199	317	900	1 216	43 415

Table A2 Sales of marine-dredged sand and gravel by product (end use) in 2014

Product	Thousand tonnes													
	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Sand														
Sand for asphalt	3	13	19							35	7		7	42
Sand for use in mortar (building sand)	201	72	76				43		16	408	607	30	637	1 045
Sand for concreting	359	3 084	1 982	175			52		488	6 139	365		365	6 504
Gravel														
Gravel for use in asphalt (on or off site)		1	7				2			9				9
Gravel for concrete aggregate	29	1 976	970	163			13		23	3 173	0		0	3 173
Other screened and graded gravels for other aggregate purposes	47	663	1 362	12					10	2 094	32		32	2 126
Sand and gravel														
Other sand and gravel, including for constructional fill	5	318	23	0					0	346	2		2	348
Undifferentiated aggregate use		500	240							740	0			740
Total for aggregate use	645	6 626	4 678	350			109		537	12 944	1 013	30	1 043	13 987
Total for all non-aggregate use	6	0								6	141		141	147
Total for all uses	650	6 626	4 678	350			109		537	12 950	1 154	30	1 184	14 134

Table A3 Sales of crushed rock by product (end use) in 2014

Product	Thousand tonnes													
	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Crushed rock, coated for asphalt on site (exc. weight of binder)	980				1 436	765	130	506	269	4 085	754	100	854	4 939
Crushed rock, coated for asphalt off site	570	39		57	4 025	1 033	669	1 054	310	7 758	1 484	289	1 773	9 532
Crushed rock for uncoated roadstone & foundation work	3 135	182			5 083	628	585	1 447	1 011	12 072	640	822	1 462	13 534
Rock chippings for surface dressing	279				915	144	12	291	20	1 662	96	122	218	1 880
Rail ballast	1				2 044	7	151		5	2 207		12	12	2 218
Concrete aggregate	3 000	114			4 259	170	870	2 762	665	11 841	1 191	881	2 072	13 913
Other screened and graded aggregates	9 620	572			2 822	423	1 105	1 547	799	16 887	1 764	984	2 748	19 635
Armourstone and gabion stone	81	51			185	9	189	45	67	628	23	27	51	678
Other construction uses, including fill	3 144	834		60	2 972	564	1 125	1 387	1 018	11 104	1 723	931	2 653	13 757
Undifferentiated aggregate use	630	2		514	67	33	1 012			2 258	150		150	2 408
Total for aggregate use	21 439	1 795		632	23 806	3 775	5 849	9 040	4 165	70 501	7 825	4 168	11 994	82 495
Building stone (exc. reconstituted stone)	211	27			102	0	50	60	12	461	138	2	140	601
Cement manufacture					4 789	0	5			4 794	350	688	1 038	5 832
Agricultural use on the land and horticulture	139	55		20	296	44	74	172	439	1 238	126	19	145	1 383
Flux in iron and steel manufacture	105				1 303		617	343	619	2 987	360		360	3 348
For all other industrial uses	59				4 603		1			4 728	2		2	4 730
Undifferentiated non-aggregate use		1			161		218			380	3	0	3	382
Total for all non-aggregate use	513	84		20	11 254	44	965	637	1 070	14 588	980	708	1 688	16 276
Total for all uses	21 953	1 879		652	35 061	3 819	6 814	9 677	5 235	85 089	8 805	4 876	13 681	98 771

Table A4 Sales of crushed rock for aggregate use by mineral in 2014

Thousand tonnes

Region	Limestone / dolomite	Igneous rock	Sandstone	Chalk	Ironstone	Total
South West	18 652	2 329	459			21 439
South East	1 603			16	176	1 795
London						
East of England	572		60			632
East Midlands	10 971	12 765	10		60	23 806
West Midlands	471	1 363	1 941			3 775
North West	3 706	328	1 815			5 849
Yorkshire & the Humber	7 677		1 314	49		9 040
North East	2 881	1 281	3			4 165
England	46 533	18 066	5 602	64	236	70 501
South Wales	4 540	1 577	1 709			7 825
North Wales	3 508	660				4 168
Wales	8 049	2 236	1 709			11 994
England and Wales	54 582	20 302	7 311	64	236	82 495

1. For aggregate use only.

Table A5 Sales of crushed rock for non-aggregate use by mineral in 2014

Thousand tonnes

Region	Limestone / dolomite	Igneous rock	Sandstone	Chalk	Ironstone	Total
South West	504	8	2			513
South East	39			26	19	84
London						
East of England				20		20
East Midlands	11 177	1	75		1	11 254
West Midlands	44		0			44
North West	712		253			965
Yorkshire & the Humber	536		59	42		637
North East	1 065	1	4			1 070
England	14 077	10	394	87	20	14 588
South Wales	840	3	137			980
North Wales	708	0				708
Wales	1 548	3	137			1 688
England and Wales	15 625	13	531	87	20	16 276

Table B1 Permitted reserves of land-won primary aggregates at 31 December 2014 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	2 888	7 401	60	24 968	5 588	2 867	2 540	4 930	3 678	54 920	550	11 867	12 417	67 337
Other sand (Inc. building & asphaltting sand)	5 564	22 467		9 616	4 067	2 935	9 644	1 711	3 351	59 354	1 300	9	1 309	60 663
Undifferentiated sand	3 229	3 630		7 451	1 253	15 232	5 211	1 673	6 491	44 169		540	540	44 709
Total sand ^(a)	11 682	33 497	60	42 034	10 909	21 034	17 394	8 314	13 521	158 443	1 850	12 416	14 266	172 709
Total gravel	2 658	12 955	631	15 864	6 342	3 271	1 189	7 333	2 904	53 145	445	1 567	2 012	55 157
Undifferentiated sand & gravel ^(b)	14 711	25 580	11	70 915	52 225	64 517	16 657	10 492	1 773	256 882	2 000	2 108	4 108	260 989
Total sand & gravel - for aggregate	28 924	67 214	702	123 588	59 687	88 822	25 480	25 209	18 198	437 823	3 392	16 091	19 483	457 306
Sand & gravel - for non-aggregate use	c	4 818		5 225	9 789		9 760	c		30 647	903		903	31 550
Crushed rock														
Limestone/dolomite - for aggregate	597 242	50 644		3 012	545 640	179 452	130 700	206 646	132 116	1 845 452	306 716	106 541	413 257	2 258 709
- for non-aggregate use	9 655	513			424 816	2 950	33 129	1 901	27 456	500 420	6 798	31 408	38 207	538 627
Igneous rock - for aggregate	195 638				366 879	41 062	23 066		87 602	714 247	74 315	51 051	125 367	839 613
for non-aggregate use	4 750						5 000			9 750				9 750
Sandstone - for aggregate	22 144	1		1 795	2 326	48 405	104 052	32 408	5	211 136	130 783		130 783	341 919
for non-aggregate use	9	0			6 898		767	4 380	95	12 149	2 856		2 856	15 005
Chalk - for aggregate	2 644	1 126			3 047			180		6 997				6 997
for non-aggregate use	20 700	2 100		1 050				21 183		45 033				45 033
Ironstone - for aggregate		400			700					1 100				1 100
for non-aggregate use		25			50					75				75
Total crushed rock – for aggregate	817 669	52 171		4 807	918 592	268 919	257 817	239 233	219 723	2 778 932	511 814	157 592	669 406	3 448 338
for non-aggregate use	35 114	2 638		1 050	431 764	2 950	38 897	27 465	27 551	567 428	9 654	31 408	41 063	608 490

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

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

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

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

Table B2 Permitted reserves of land-won primary aggregates at 31 December 2014 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	28 924	67 214	702	123 588	59 687	88 822	25 480	25 209	18 198	437 823	3 392	16 091	19 483	457 306
National Park		2 131								2 131	2 657		2 657	4 788
AONB	1 190	5 964		650		13 000				20 804		1 100	1 100	21 904
SSSI	6 049	5 815		3 022	512	17 464		3 836	5 931	42 628	100		100	42 728
SPA and SAC	5 679	3 446		541					4 148	13 814	100		100	13 914
Green Belt	3 279	33 556		15 680		29 366	4 176		2 480	88 537				88 537
Crushed rock														
All sites	817 669	52 171		4 807	918 592	268 919	257 817	239 233	219 723	2 770 601	511 814	157 592	669 406	3 448 338
National Park	c				94 374		33 883	85 310	c	239 476	111 853		111 853	351 329
AONB	185 572	3 072			2 697	13 376	11 717	16 513	21 623	252 559		5 006	5 006	259 576
SSSI	175 122	400		758	299 295	13 376	44 012	119 550	102 129	754 644	68 842	52 720	121 562	876 206
SPA and SAC	27 774				11 628		44 011	36 934	40 571	160 919	1 176	37 765	38 941	199 861
Green Belt	37 996	31 550				22 420	11 000	54 727		158 443				158 443

1. For aggregate use only.
2. Figures include reserves in Active and Inactive sites, but not Dormant sites.
3. Designations are not mutually exclusive, e.g. SSSIs may overlap with others, such as National Parks and AONBs. Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are also SSSIs. They are sub-sets of SSSIs. Some designations, notably SSSIs, may only coincide with a small part of an extant planning permission. However, the total sales for the mineral working are recorded even though there may be no extraction within the designation. The degree of overlap, and the actual or potential impacts of mineral extraction on the conservation interest of the site will vary and are not reflected in the figures.
4. Green Belt is a planning policy designation.
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 2014 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	c	4 818		5 225	9 789		9 760	c		30 647	903		903	31 550
National Park											73		73	73
AONB		2 684								2 684				2 684
SSSI	124			11	39					173				173
SPA and SAC	124			11						135				135
Green Belt		4 707		910			902			6 519				6 519
Crushed rock														
All sites	35 114	2 638		1 050	431 764	2 950	38 897	27 465	27 551	567 428	9 654	31 408	41 063	608 490
National Park					173 624		9 530			183 154	10		10	183 164
AONB	13 267	2 170								15 437				15 437
SSSI	4 951			250	46 072		5 009		23 257	79 539		31 408	31 408	110 948
SPA and SAC					4 754		5 000		23 257	33 010		31 408	31 408	64 419
Green Belt	20 700	2 100					380	4 429	750	28 359				28 359

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

Table B4 Permitted reserves of primary aggregates at 31 December 2014 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		310		2 460	9 723	12 070	2 678			27 241	350	1 025	1 375	28 616
National Park		250								250				250
AONB														
SSSI					2 460					2 460	350		350	2 810
SPA and SAC					2 460					2 460	350		350	2 810
Green Belt						1 880	2 246			4 126				4 126
Crushed rock														
All sites	294 068				20 291	36 090	14 846	500		365 794	25 591	1 450	27 041	392 835
National Park					4 000					4 000	360		360	4 360
AONB	1 465				2 900	4 600	14 846			23 811				23 811
SSSI	202 753						14 846			217 599	2 721		2 721	220 320
SPA and SAC	41 000						14 846			55 846				55 846
Green Belt								500		500				500

1. For aggregate use only.
2. Designations are not mutually exclusive, e.g. SSSIs may overlap with others, such as National Parks and AONBs. Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are also SSSIs. They are sub-sets of SSSIs. Some designations, notably SSSIs, may only coincide with a small part of an extant planning permission. However, the total sales for the mineral working are recorded even though there may be no extraction within the designation. The degree of overlap, and the actual or potential impacts of mineral extraction on the conservation interest of the site will vary and are not reflected in the figures.
3. Green Belt is a planning policy designation.
4. The data presented on dormant sites cannot be considered complete as some regions have dormant sites where the volume of aggregates contained is not known and, therefore, could not be supplied.

Table C1 Total reserves of sand and gravel granted planning permission between 2010 and 2014 by site type

Thousand tonnes

Region	New quarries		Extensions		Borrow pits	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	283	1	7 457	10	4	1
South East	14 260	11	13 166	16	32	1
London						
East of England	14 961	13	27 655	21	1 305	3
East Midlands	10 799	6	9 310	14		
West Midlands	2 580	3	19 998	5		
North West			8 848	6		
Yorkshire & the Humber	955	2	7 800	5	625	3
North East	4 644	5	1 070	2		
England	48 482	41	95 303	79	1 966	8
South Wales			2 350	2		
North Wales	600	1				
Wales	600	1	2 350	2		
England and Wales	49 082	42	97 653	81	1 966	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 2010 and 2014 by site type

Thousand tonnes

Region	New quarries		Extensions		Borrow pits	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	98	1				
South East	905	2	760	1		
London						
East of England	2 593	3	5 700	3	300	1
East Midlands						
West Midlands	1 420	1				
North West						
Yorkshire & the Humber						
North East						
England	5 016	7	6 460	4	300	1
South Wales						
North Wales						
Wales						
England and Wales	5 016	7	6 460	4	300	1

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 2010 and 2014 by site type

Thousand tonnes

Region	New quarries		Extensions		Borrow pits	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	3 064	2	3 380	2		
South East	5 516	4	7 752	4		
London						
East of England	3 272	3	4 010	3	1	1
East Midlands			8 378	5		
West Midlands			8 787	5		
North West			9 000	1		
Yorkshire & the Humber	11 370	1	10 116	4		
North East			550	1		
England	23 222	10	51 973	25	1	1
South Wales						
North Wales						
Wales						
England and Wales	23 222	10	51 973	25	1	1

1. New quarries excludes borrow pits.
2. Extensions include lateral and vertical.
3. Includes planning permissions awaiting a Section 106 Agreement.
4. As at 31 December 2014.

Table C4 Total quantity of sand and gravel withdrawn from the planning application process between 2010 and 2014 by site type

Thousand tonnes

Region	New quarries		Extensions		Borrow pits	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	300	1				
South East	6 376	5				
London						
East of England	70	1	900	1		
East Midlands			120	1		
West Midlands						
North West						
Yorkshire & the Humber						
North East						
England	6 746	7	1 020	2		
South Wales						
North Wales						
Wales						
England and Wales	6 746	7	1 020	2		

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 2010 and 2014 by site type

Thousand tonnes

Region	New quarries		Extensions		Borrow pits	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West			15 950	5		
South East			10 523	3		
London						
East of England	3 340	2				
East Midlands	1 950	1	144 474	10		
West Midlands			22 413	3		
North West	100	1	3 845	4	10	5
Yorkshire & the Humber	50	2	32 785	10		
North East	20 570	3	4 936	5	25	3
England	26 010	9	234 925	40	35	8
South Wales	80	1	16 861	14	15	2
North Wales	500	1	2 500	1		
Wales	580	2	19 361	15	15	2
England and Wales	26 590	11	254 286	55	50	10

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

Table C6 Total quantity of crushed rock refused planning permission between 2010 and 2014 by site type

Thousand tonnes

Region	New quarries		Extensions		Borrow pits	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West						
South East						
London						
East of England						
East Midlands			125	1		
West Midlands						
North West						
Yorkshire & the Humber						
North East						
England			125	1		
South Wales						
North Wales						
Wales						
England and Wales			125	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 2010 and 2014 by site type

Thousand tonnes

Region	New quarries		Extensions		Borrow pits	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West			19 943	4		
South East			72	1		
London						
East of England			1 200	1		
East Midlands			23 822	4		
West Midlands						
North West			10 070	3		
Yorkshire & the Humber			6 831	7		
North East			2 200	1		
England			64 137	21		
South Wales	891	2	39 565	2		
North Wales						
Wales	891	2	39 565	2		
England and Wales	891	2	103 702	23		

1. New quarries excludes borrow pits.
2. Extensions include lateral and vertical.
3. Includes planning permissions awaiting a Section 106 Agreement.
4. As at 31 December 2014.

Table C8 Total quantity of crushed rock withdrawn from the planning application process between 2010 and 2014 by site type

Thousand tonnes

Region	New quarries		Extensions		Borrow pits	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West						
South East						
London						
East of England						
East Midlands						
West Midlands						
North West						
Yorkshire & the Humber						
North East						
England						
South Wales						
North Wales						
Wales						
England and Wales						

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

Table C9 Total reserves of sand and gravel granted planning permission between 2010 and 2014 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									265	2
South East	565	1	512	2	1 892	3	1 892	3	14 696	11
London										
East of England					630	1	2 449	3	8 095	3
East Midlands					1 200	1	2 200	2	2 500	2
West Midlands									2 580	2
North West									1 385	3
Yorkshire & the Humber									900	1
North East					1 004	1	1 004	1	450	1
England	565	1	512	2	4 726	6	7 545	9	30 871	25
South Wales	2 350	2								
North Wales										
Wales	2 350	2								
England and Wales	2 915	3	512	2	4 726	6	7 545	9	30871	25

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

Table C10 Total quantity of sand and gravel refused planning permission between 2010 and 2014 by environmental designation

Thousand tonnes

Region	National Park		AONB		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West										
South East			760	1						
London										
East of England					1 250	1	1 250	1	750	2
East Midlands										
West Midlands										
North West										
Yorkshire & the Humber										
North East										
England			760	1	1 250	1	1 250	1	750	2
South Wales										
North Wales										
Wales										
England and Wales			760	1	1 250	1	1 250	1	750	2

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

Table C11 Total quantity of sand and gravel currently awaiting planning permission decision between 2010 and 2014 by environmental designation

Thousand tonnes

Region	National Park		AONB		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West									180	1
South East									5 516	4
London										
East of England										
East Midlands										
West Midlands										
North West									9 000	1
Yorkshire & the Humber							4 000	1		
North East									550	1
England							4 000	1	15 246	7
South Wales										
North Wales										
Wales										
England and Wales							4 000	1	15 246	7

1. SPA / SAC are a subset of SSSI.

2. Green Belt is a planning policy designation.

3. Includes planning permissions awaiting a Section 106 Agreement.

4. As at 31 December 2014.

Table C12 Total quantity of sand and gravel withdrawn from the planning application process between 2010 and 2014 by environmental designation

Thousand tonnes

Region	National Park		AONB		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West										
South East	1 500	1							3 360	2
London										
East of England										
East Midlands										
West Midlands										
North West										
Yorkshire & the Humber										
North East										
England	1 500	1							3 360	2
South Wales										
North Wales										
Wales										
England and Wales	1 500	1							3 360	2

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

Table C13 Total reserves of crushed rock granted planning permission between 2010 and 2014 by environmental designation

Thousand tonnes

Region	National Park		AONB		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West										
South East										
London										
East of England										
East Midlands										
West Midlands										
North West			10	5	7	3	7	3	2 590	2
Yorkshire & the Humber	27 500	2	2 000	1	2 000	1	26 500	3	2 303	7
North East	1 100	1	25	3	25	3	25	3	0	
England	28 600	3	12 865	11	2 032	7	38 082	13	5 333	10
South Wales										
North Wales			500	1	2 500	1	2 500	1		
Wales			500	1	2 500	1	2 500	1		
England and Wales	28 600	3	13 365	12	4 532	8	40 582	14	5 333	10

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

Table C14 Total quantity of crushed rock refused planning permission between 2010 and 2014 by environmental designation

Thousand tonnes

Region	National Park		AONB		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West										
South East										
London										
East of England										
East Midlands	125	1					125	1		
West Midlands										
North West										
Yorkshire & the Humber										
North East										
England	125	1					125	1		
South Wales										
North Wales										
Wales										
England and Wales	125	1					125	1		

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

Table C15 total quantity of crushed rock currently awaiting planning application decision between 2010 and 2014 by environmental designation

Thousand tonnes

Region	National Park		AONB		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West			270	1			473	1		
South East										
London										
East of England										
East Midlands	390	1			390	1	20 390	2		
West Midlands										
North West									1 400	1
Yorkshire & the Humber							1 610	1	4 631	5
North East										
England	390	1	270	1	390	1	22 473	4	6 031	6
South Wales	26 435	2								
North Wales										
Wales	26 435	2								
England and Wales	26 825	3	270	1	390	1	22473	4	6 031	6

1. SPA / SAC are a subset of SSSI.

2. Green Belt is a planning policy designation.

3. Includes planning permissions awaiting a Section 106 Agreement.

Table C16 Total quantity of crushed rock withdrawn from the planning application process between 2010 and 2014 by environmental designation

Thousand tonnes

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

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

Table C17 Total quantity of sand and gravel granted, refused, withdrawn or awaiting planning permission between 2010 and 2014 for sites within a development plan allocated area

Thousand tonnes

Region	Granted		Refused		Withdrawn		Awaiting (as at 31 Dec. 2014)	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	1 342	2			300	1	3 200	1
South East	1 155	3			1 500	1	12 503	6
London								
East of England	32 794	19					6 510	4
East Midlands	10 848	8					5 970	3
West Midlands	20 180	5					5 700	2
North West	7 523	2						
Yorkshire & the Humber	2 300	3						
North East								
England	76 142	42			1 800	2	33 883	16
South Wales								
North Wales								
Wales								
England and Wales	76 142	42			1 800	2	33 883	16

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

Table C18 Total quantity of crushed rock granted, refused, withdrawn or awaiting planning permission between 2010 and 2014 for sites within a development plan allocated area

Thousand tonnes

Region	Granted		Refused		Withdrawn		Awaiting (as at 31 Dec. 2014)	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	11 050	3					17 773	2
South East								
London								
East of England	2 900	1					1 200	1
East Midlands	7 350	4						
West Midlands								
North West	2 000	1					1 400	1
Yorkshire & the Humber	1 416	4					520	1
North East	21 370	3						
England	46 086	16					20 893	5
South Wales	12 470	7					27 056	2
North Wales								
Wales	12 470	7					27 056	2
England and Wales	58 556	23					47 949	7

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

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

Thousand tonnes

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

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

Thousand tonnes

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

1. n.a. - not available.

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

Million tonnes

Region	Sand and Gravel									
	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014
South West	153	171	72	72	83	74	50	51	41	29
South East, London, East of England	442	n.a.	377	363	405	359	330	250	228	192
East Midlands	175	147	143	149	130	126	99	77	81	60
West Midlands	188	156	140	132	140	166	144	127	104	89
Yorkshire & the Humber	66	43	42	54	37	58	51	42	34	25
North East & North West	101	66	74	74	100	98	79	56	57	44
England	1 125	n.a.	848	844	895	881	752	603	544	438
South Wales	9	n.a.	2	0	10	14	8	3	2	3
North Wales	28	n.a.	20	16	20	26	23	15	19	16
Wales	37	n.a.	22	16	30	40	31	18	21	19
England and Wales	1 162	n.a.	870	860	925	921	783	622	565	457
Region	Crushed Rock									
	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014
South West	1 788	1 842	1 089	1 393	1 310	1 435	1 426	920	868	818
South East, London, East of England	n.a. ¹	n.a.	31	42	71	57	88	62	62	57
East Midlands	1 733	1 543	1 773	1 896	1 957	2 091	2 166	1 375	1 303	919
West Midlands	228	267	241	235	216	465	309	306	312	269
Yorkshire & the Humber	522	n.a.	257	413	531	550	471	347	301	239
North East & North West	1 162	1 011	809	717	1 002	705	605	545	544	478
England	5 433	n.a.	4 200	4 696	5 087	5 303	5 065	3 556	3 391	2 779
South Wales	656	n.a.	492	419	581	651	648	499	419	512
North Wales	619	n.a.	1 117	772	433	399	505	205	172	158
Wales	1 275	n.a.	1 609	1 191	1 014	1 050	1 153	705	591	669
England and Wales	6 708	n.a.	5 809	5 887	6 101	6 353	6 218	4 260	3 982	3 448
Region	Total Primary Aggregates									
	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014
South West	1 941	2 013	1 161	1 465	1 393	1 509	1 476	971	909	847
South East, London, East of England	n.a.	n.a.	408	405	476	416	418	312	291	248
East Midlands	1 908	1 690	1 916	2 045	2 087	2 217	2 265	1 452	1 384	978
West Midlands	416	423	381	367	356	631	453	433	415	358
Yorkshire & the Humber	588	n.a.	299	467	568	608	522	389	335	264
North East & North West	1 263	1 077	883	791	1 102	803	684	601	601	521
England	n.a.	n.a.	5 048	5 540	5 982	6 184	5 817	4 159	3 935	3 217
South Wales	665	n.a.	494	419	591	665	655	502	421	515
North Wales	647	n.a.	1 137	788	453	425	528	220	192	174
Wales	1 312	n.a.	1 631	1 207	1 044	1 090	1 184	723	612	689
England and Wales	n.a.	n.a.	6 679	6 747	7 026	7 274	7 001	4 882	4 547	3 906

1. n.a. - not available.

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

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

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

Thousand tonnes

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

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

Thousand tonnes

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

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

Million tonnes

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

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

Appendix F - Survey forms A and B

Page 1 of 11



Department for
Communities and
Local Government

Aggregate Minerals Survey 2014 for England and Wales



Llywodraeth Cymru
Welsh Government

FORM A: Quarries producing land-won natural aggregates¹, and Marine Wharves for sand and gravel and crushed rock during 2014

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 2009 (AM2009) 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, 2014. The national collation of this Survey is being undertaken by the British Geological Survey for the Department of Communities and Local Government (DCLG) and the Welsh Government. To simplify the Survey the questions have been harmonised with the statutory Annual Minerals Raised Inquiry (AMRI) undertaken on behalf of DCLG by the Office for National Statistics.

The results of the AM2014 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 Aggregates Working Party (AWP) Secretaries. It will not be used unless it is first collated 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 DCLG, the AWP's 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 31st July 2015

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 or email

Mr Tom Bide - 0115 936 3273 - tode@bgs.ac.uk

NON-CONFIDENTIAL

SITE DETAILS

SD1	Operating company	
SD2	Quarry / wharf name	
SD3	Address of quarry or wharf	
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)	<input type="checkbox"/> Quarry ⁽¹⁾ <input type="checkbox"/> Marine wharf ⁽²⁾
TM2	Association status: (please tick relevant box(es))	<input type="checkbox"/> Mineral Products Association member <input type="checkbox"/> British Aggregates Association member
TM3	Status of quarry / wharf / other site: (please tick relevant box)	<input type="checkbox"/> Active: In production, including from stockpiles, for some time during 2014 <input type="checkbox"/> Inactive: Worked in the past and still containing permitted reserves [Complete only Question 1 for permitted reserves] ⁽³⁾ <input type="checkbox"/> Inactive: Planning permission received, but yet to be worked [Complete only Question 1 for permitted reserves] <input type="checkbox"/> Dormant: As identified under the Environment Act 1995 ⁽³⁾ [Complete only Question 1 for permitted reserves] <input type="checkbox"/> Closed and containing no workable permitted reserves [Complete only site details]
TM4	Mineral type: (please tick relevant box(es))	<input type="checkbox"/> Sand <input type="checkbox"/> Sand and Gravel <input type="checkbox"/> Igneous rock (including metamorphic) <input type="checkbox"/> Limestone / Dolomite <input type="checkbox"/> Sandstone (includes greywacke, gritstone and quartzite) <input type="checkbox"/> Chalk <input type="checkbox"/> Ironstone <input type="checkbox"/> China clay aggregate (sand or 'stent') ⁽⁴⁾ <input type="checkbox"/> Ball clay aggregate (sand) ⁽⁴⁾ <input type="checkbox"/> Slate waste sold as aggregate ⁽⁴⁾ <input type="checkbox"/> Colliery spoil sold as aggregate ⁽⁴⁾ <input type="checkbox"/> 'Clay' and 'shale' sold as aggregate ⁽⁴⁾

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To be completed by MPA:

MPA1	MPA name			
MPA2	AWP 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 (a temporary mineral working to supply aggregate for a specific construction project)	<input type="checkbox"/>
DS2	Please tick here if the site has received planning permission for an extension in 2014	<input type="checkbox"/>
DS3	Please tick here if this is a new quarry or wharf granted planning permission in 2014	<input type="checkbox"/>
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)	<input type="checkbox"/>
DS5	AONB	<input type="checkbox"/>
DS6	SSSI/NNR	<input type="checkbox"/>
DS7	SAC/SPA	<input type="checkbox"/>
DS8	Green Belt	<input type="checkbox"/>
DS9	Date current planning permission for extraction expires (dd/mm/yyyy)	<input type="text"/>

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1. PERMITTED RESERVES (AT QUARRIES ONLY)**DEFINITIONS**

Permitted Reserves - Estimated reserves of aggregate minerals, including stockpiles, with planning permission that are saleable for aggregates and non-aggregate purposes at 31st December 2014. 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 asphaltting 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		%

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2. SALES BY PRODUCT

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

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

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

2.1 Questions 2.1.1 - 2.1.9 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).

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	<input type="text"/>
2.1.2	Sand for use in mortar (building or soft sand)	<input type="text"/>
2.1.3	Sand for concreting or sharp sand	<input type="text"/>
Gravel for aggregate use		Tonnes
2.1.4	Gravel for asphalt	<input type="text"/>
2.1.5	Gravel for concrete aggregate	<input type="text"/>
2.1.6	Other screened and graded gravels	<input type="text"/>
Sand and Gravel for aggregate use		Tonnes
2.1.7	Other sand and gravel e.g. for constructional fill	<input type="text"/>
2.1.8	Total for all aggregate use [T1]	<input type="text"/>
Sand and Gravel for non-aggregate uses		Tonnes
2.1.9	Total for all non-aggregate uses	<input type="text"/>

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	
The Netherlands	
Belgium	
Denmark	
Other countries	
Unknown	
Total tonnage	

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2. SALES BY PRODUCT

2.2 Crushed Rock

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

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

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

DEFINITIONS

Limestone / Dolomite includes high magnesium limestone but not chalk.

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

Sandstone includes greywacke, gritstone and quartzite.

Ironstone formerly of interest as a source of iron.

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

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

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

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

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

2.2 Questions 2.2 should be filled in for sales of crushed rocks excavated from the quarry or landed at the wharf. **Exclude** material produced elsewhere within England and Wales and brought to the site for processing. Where aggregate is taken to another site for processing please estimate the sales attributable to the actual excavated site. **For wharves, exclude** material that has been transhipped to another wharf in England and Wales. (The receiving wharf will be completing these questions).

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

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

2.2.7 Including pipebedding, drainage layers.

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

2.2.11 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]	

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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 2014 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 Counties and Unitary Authorities comprising each Sub-Region please see map on page 11.

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

CONTINUED OVERLEAF....

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3. SALES BY DESTINATION (continued...)

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

PLEASE PROVIDE TOTALS OVERLEAF...

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3. SALES BY DESTINATION (continued...)

Sub-Region	Tonnes		Tonnes or percent (delete as appropriate)			
	Sales of aggregate		Modes of transport			
	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])						

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



This map is based upon the OS Boundary-Line Map by British Geological Survey with the permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office. © Crown copyright. All rights reserved. Licence Number: 100021290/2015.



**Aggregate Minerals Survey 2014
for England and Wales**



FORM B: Mineral Sites Granted¹, Refused², Withdrawn³ and Awaiting⁴ Planning Permission, 2010-2014

To be completed by Mineral Planning Authority (MPA)

MPA name

Completed by

Date Email Tel

AWP

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

Completed forms should be returned by email to Tom Bide (tode@bgs.ac.uk) and copied to the relevant AWP Secretary for collation.

Please return the completed form no later than 31st July 2015.

Sites granted¹ planning permission for aggregates extraction, 2010-2014

Year	Site Name	Mineral (5)	NGR (6)	Site Type (7)	Reserves (tonnes)	Nat. Park (8)	AONB (8)	SSSI (8)	SPA / SAC (8)	Green Belt (8)	Site lies inside area allocated for mineral extraction in the Plan (9)	Permitted annual level of production from the site (tonnes)
2010	1											
	2											
	3											
	4											
	5											
2011	1											
	2											
	3											
	4											
	5											
2012	1											
	2											
	3											
	4											
	5											
2013	1											
	2											
	3											
	4											
	5											
2014	1											
	2											
	3											
	4											
	5											

Please enter 1 in appropriate box(es)

Sites refused² planning permission for aggregates extraction, 2010-2014

Year	Site Name	Mineral (5)	NGR (6)	Site Type (7)	Reserves (tonnes)	Nat. Park (8)	ACONB (8)	SSSI (8)	SPA / SAC (8)	Green Belt (8)	Site lies inside area allocated for mineral extraction in the Plan (9)	Proposed annual level of production from the site (tonnes)
2010	1											
	2											
	3											
	4											
	5											
2011	1											
	2											
	3											
	4											
	5											
2012	1											
	2											
	3											
	4											
	5											
2013	1											
	2											
	3											
	4											
	5											
2014	1											
	2											
	3											
	4											
	5											

Please enter 1 in appropriate box(es)

Sites whose planning permission application for aggregates extraction has been withdrawn³, 2010-2014

Year	Site Name	Mineral (5)	NGR (6)	Site Type (7)	Reserves (tonnes)	Nat. Park (8)	ACONB (8)	SSSI (8)	SPA / SAC (8)	Green Belt (8)	Site lies inside area allocated for mineral extraction in the Plan (9)	Proposed annual level of production from the site (tonnes)
2010	1											
	2											
	3											
	4											
	5											
2011	1											
	2											
	3											
	4											
	5											
2012	1											
	2											
	3											
	4											
	5											
2013	1											
	2											
	3											
	4											
	5											
2014	1											
	2											
	3											
	4											
	5											

Please enter 1 in appropriate box(es)

Sites currently awaiting⁴ decision on planning permission for aggregates extraction at 31/12/2014

Year	Site Name	Mineral (5)	NGR (6)	Site Type (7)	Reserves (tonnes)	Nat. Park (8)	AONB (8)	SSSI (8)	SPA / SAC (8)	Green Belt (8)	Site lies inside area allocated for mineral extraction in the Plan (9)	Proposed annual level of production from the site (tonnes)
2010	1											
	2											
	3											
	4											
	5											
2011	1											
	2											
	3											
	4											
	5											
2012	1											
	2											
	3											
	4											
	5											
2013	1											
	2											
	3											
	4											
	5											
2014	1											
	2											
	3											
	4											
	5											

Please enter 1 in appropriate box(es)

GUIDANCE NOTES - please read these notes before completing the form

- Subject to all legal (including Section 106 (S106)) Agreements being made. For the calendar year periods 1/1/2010 to 31/12/2014 (inclusive).
- If a refusal (e.g. in 2010) goes to appeal and is rejected (e.g. in 2012) only enter for the final rejection.
- 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.
- 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.
- 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)
- National Grid Reference (NGR) - of centre of site e.g. NG 456 789.
- 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 lime where these do not lead to an increase / decrease in reserves.
- 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.
- Please enter a 1 if the area of extraction within the planning application is **wholly or partly** within an area allocated for mineral extraction (allocated site, preferred area, area of search) in the MPAs development plan.
- If required insert extra rows.
- Questions can be directed to Tom Bide at the British Geological Survey. Tel: 0115 936 3273 Email: tode@bgs.ac.uk

Appendix G - Glossary of terms and abbreviations

Active/Inactive	Sites are described as <i>active</i> where material was produced at any time during 2014 and as <i>inactive</i> when the site was not in production during that period. Inactive sites include those that have been worked in the past and those that have yet to begin. The term ‘inactive’ 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 MPA of an application for the determination of such conditions. Dormant sites do not contain permitted reserves.
Extension	A site granted permission for the extraction of aggregate minerals for which there has been a change in the size (laterally or vertically) of the development from the original planning consent.
Green Belt	An area of land designated in development plans within which the fundamental aim is to prevent urban sprawl by keeping that land permanently open.
Greenfield site	For the purposes of the Aggregate Minerals Survey, land previously in agriculture or non-urban/industrial use which becomes the location for a new mineral operation. Analogous to new quarries.
Hoggin	A term mainly applied in southern England for ‘as raised’ clayey sand and gravel, used as dug for constructional fill for low-grade purposes, paths etc. (‘A natural deposit of stony sand and gravel containing a small admixture of clay which is sufficient to hold the mass together without affecting the interlocking properties of the coarser particles.’ Mineral Dossier on Sand and Gravel. Mineral Resources Consultative Committee, 1970).
New quarries	A totally new mineral operation.
Landbank	A stock of planning permissions to which valid conditions are attached for the winning and working of minerals. It is composed of the sum of all permitted reserves at active and inactive sites (but not dormant sites) at a given point in time, and for a given area.
Marine wharves	Points at which marine-dredged sand and gravel are landed and processed. Some marine wharves are used for landing crushed rock.
MPA	Mineral Planning Authority, responsible for planning control over mineral working within its area.
mpa	Mineral Products Association, the trade association which represents some 120 quarry operators, who together account for more than 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.
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.' SACs, together with SPAs (see below), form part of 'Natura 2000,' a European wide network of areas of special nature conservation interest. SACs are also SSSIs.
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.' SPAs are also SSSIs.
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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Each Aggregate Working Party produces Annual Monitoring Survey reports. The results of the AM2014 Survey will also appear in the AWP Annual Reports for 2014. These are available from the AWP Technical Secretaries (see Appendix I).

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Appendix J - Members of the AM2014 National Collation Steering Group

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Appendix K - AM2014 project team

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Dr Joseph Mankelow - Project Leader

Tom Bide - Minerals Geologist

Marcus Sen - Database Design and Development

Emma Raycraft - Data Entry

Don Cameron - Quality Assurance

Teresa Brown - Quality Assurance

Appendix L – Mineral Planning Authorities within Aggregate Working Party regions in 2014

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 South Downs National Park 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

REGION	Mineral Planning Authority
LONDON AWP CONTINUED	London Borough of Islington 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 upon Thames
EAST OF ENGLAND AWP	Bedford Borough Council Broads Authority Cambridgeshire County Council Central Bedfordshire Council Essex County Council Hertfordshire County Council Luton Borough Council Norfolk County Council Peterborough 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

REGION	Mineral Planning Authority
NORTH WEST AWP CONTINUED	Lake District National Park 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	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 Borough Council Sunderland City 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)

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