

South East

Aggregates Monitoring Report 2009

South East England Regional Aggregates Working Party

SEERAWP 11/01

February 2011

Contents	page
Executive Summary	i-iii
1. Aggregates Minerals Survey for England & Wales	1
2. Aggregates Monitor for the South East	1
3. Regional and Sub-regional Apportionment	2
4. Quarries	3
Land-won Sand and Gravel	
Local Crushed Rock	4
5. Wharves	5
Landings of Marine Dredged Sand and Gravel	
Imports of Crushed Rock by Sea	
6. Rail Depots	6
Crushed Rock and Sand and Gravel	
7. Consumption of Primary Aggregates	6
8. Secondary and Recycled Materials	7
9. Environment	8
10. Minerals Development Plans and Applications	8

Tables		page
1	Sand and Gravels – Sales, Permissions and Reserves 2009	10
2	Sales of Soft Sand and Sharp Sand and Gravel 2000 - 2009	11
3	Sands and Gravels – Comparison between Regional Apportionment, Sales, Permissions and Reserves 2000 – 2009	12
4	Sand and Gravel Landbanks at end 2009	13
5	Crushed Rock – Sales, Permissions and Reserves in 2009	13
6	Crushed Rock – Comparison between Regional Apportionment, Sales, Permissions and Reserves 2000 - 2009	14
7	Landings of Marine-Dredged Sand and Gravel 2000 - 2009	14
8	Imports of Crushed Rock by Sea 2000 - 2009	15
9	Sales of Aggregate at Rail Depots 2003 - 2009	15

Figures

1	Administrative Areas in the South East	16
2	Sand and Gravel Sales Compared with Regional Apportionment and Permissions 2000-2009	17
3	Sand and Gravel Reserves at end 2009	17
4	Sand and Gravel Reserves 2000-2009	18
5	Sales of Local Crushed Rock Compared with Regional Apportionment 2000-2009	18
6	Reserves of Local Crushed Rock 2000-2009	19
7	Landings of Marine-Dredged Sand and Gravel 2000-2009	19
8	Imports of Crushed Rock by Sea 2000-2009	20
9	Sales of Aggregate at Rail Depots 2003-2009	20
10	Primary Aggregate Consumption 2009	21
11	Sand and gravel reserves at the end of 2009	22
12	Crushed rock reserves at the end of 2009	22
13	Landings of Marine Dredged Sand and Gravel, 2009	23

Maps

Active and Inactive Quarries and Allocations:

- 1 Berkshire Unitary Authorities
- 2 Buckinghamshire and Milton Keynes
- 3 East Sussex and Brighton and Hove
- 4 Hampshire, Portsmouth, Southampton, New Forest National Park and Isle of Wight
- 5 & 6 Kent and Medway, and Kent inserts
- 7 Oxfordshire
- 8 Surrey
- 9 West Sussex
- 10 Aggregate Wharves 2009
- 11 Aggregate Rail Depots 2009

Appendices

- Appendix A Permissions, refusals, undetermined and withdrawn applications
- Appendix B Key milestones for minerals development plan documents
- Appendix C Active and inactive aggregate sites, wharves, rail depots and sites producing secondary and recycled aggregate
- Appendix D Allocations

Executive Summary

This AM2009 regional report for the South East has been prepared from returns made to the national Aggregates Minerals survey undertaken by BGS on behalf of DCLG. This four yearly survey includes data on the supply of primary aggregates between regions and sub-regions and the mode of transport used, and provides data on consumption as well as sales and reserves. Additional survey data has been gathered by SEERAWP at the regional scale on sales from rail depots, and recycled and secondary aggregates. Data has also been gathered at both the national and regional level on the determination of applications 2006-2009.

Regional and Sub-regional Apportionment

- In March 2010 the Government Office for the South East published 'Proposed Changes' to Policy M3 in the South East Plan, setting a regional apportionment of 11.12mtpa for land-won sand and gravel and 1.44mtpa for crushed rock.
- The Secretary of State has supported these figures, and for comparative purposes this AM report refers to them as the apportioned figures.

Land-won Sand and Gravel

- Sand and gravel sales have fallen for the tenth year running to 6.0 million tonnes (Mt), some 1.3Mt less than in 2008. Nonetheless, they continue to supply nearly 50% of the primary aggregate supply from the region.
- Sales continue well below the 'Proposed Changes' figure of 11.12mtpa. At 6.0Mt, sales in 2009 were some 46% below the recommended apportionment.
- Reserves have declined by over 60Mt in the last 10 years to 79Mt. In the years 2000-2006 sales were 2½ times the tonnage of reserves in new permissions. However in the last three years 2007-2009 the tonnage in new reserves has exceeded sales.
- The regional landbank is 7.1 years at the 'Proposed Changes' apportionment level. However, 5 authorities have a landbank below 7 years. If sales continue at the average of the last 3 years, reserves would apparently last nearly 12 years, but in practice difficulties in supply would take place earlier if further permissions were not granted.

Local Crushed Rock

- Sales of crushed rock were some 1.3Mt in 2009, 100,000 tonnes less than in 2008.

- With some 48Mt of reserves, there are over 30 years for working at the 'Proposed Changes' apportionment level.

Landings of Marine-dredged Sand and Gravel

- The Crown Estate figure of 4.8Mt for 2009 is 1Mt less than the tonnage of landings in 2008.
- Nonetheless, marine dredged aggregate is providing 40% of the primary aggregate supply from the region.

Landings of Sea-Borne Crushed Rock

- Landings of crushed rock in 2009 at some 1.5Mt are a decrease of some 800,000 on the landings in 2008.
- Some 90% of crushed rock was landed at wharves in Medway and Kent.

Rail Aggregate Depots

- Some 2.3Mt of crushed rock and 0.3Mt of land-won sand and gravel was sold from rail depots in 2009.

Consumption of Primary Aggregates

- AM2009 establishes that the South East consumed some 15.8Mt of primary aggregates that year.
- The South East was a small net exporter (0.3Mt) of both land-won sand and gravel and marine aggregate, principally to London, but a major importer (4.3Mt) of hard rock, principally from the South West (2.7Mt).

Secondary and Recycled Materials

- The 2009 returns show that some 2.0Mt of CD&EW is being recycled at fixed sites and used for aggregate, and 0.6Mt from other materials.
- However, returns are incomplete and these figures need to be treated with caution.

Environment

- In 2009 some 800,000 tonnes of aggregate was sold from quarries in or partly within a National Park or AONB, over 2Mt from quarries in or partly within SSSIs/SPA/SAC sites, and 2Mt from quarries in the Green Belt.

- 16Mt of aggregate reserves lie within or partly within a National Park/AONB, over 30Mt in SSSI/SPA/SACs, and 67Mt in the Green Belt.

Minerals Development Plans and Applications

- Only Hampshire has an adopted Core Strategy, and an EIP has been held into the Isle of Wight Core Strategy and Surrey Minerals Plan.
- Over 90% of applications submitted within allocated areas 2006-2009 have been permitted, and 75% of applications made outside allocated areas.

1. Aggregates Minerals Survey for England & Wales

1.1 An Aggregates Minerals Survey for England and Wales was carried out by British Geological Survey (BGS) on behalf of the Department of Communities and Local Government (DCLG) in 2009, one of the four yearly surveys undertaken since 1973. Survey forms were supplied to Mineral Planning Authorities (MPAs) to send to operators, collate the returns and send to BGS via the Secretaries of the Regional Aggregate Working Parties (RAWPs). The four yearly survey includes data on the supply of aggregate between regions and sub-regions and the mode of transport used, and provides data on consumption as well as sales and reserves. The 2009 survey also included data on aggregate applications determined in the years 2006-2009, and the number of quarries and tonnage in undetermined applications at the end of 2009.

2. Aggregates Monitor for the South East

2.1 AM2009 is the fourteenth Annual Monitoring report to be produced by the South East England Aggregates Working Party (SEERAWP) for South East England from 1996. It draws upon the national survey to present a monitor at the regional scale. Data in the tables in the report is presented for eight geographical counties* and three Unitary Authorities** (see Figure 1).

2.2 To continue the pattern of data in earlier reports, AM2009 also includes data on aggregates handled at rail depots and recycled and secondary materials. The rail depot data will enable some refinement of the national survey of aggregate supply between sub regions. The attempt to obtain data on recycling and secondary aggregates is in recognition of the importance of this source of aggregate supply to the South East – some 25% of total supply. However, accurate and complete data is notoriously difficult to obtain, and the figures presented in 9.3 below are an underestimate.

2.3 SEERAWP also decided to investigate the amount of land allocated in development plans which had not been the subject of an application, the effects of allocations on the determination of aggregate applications, and the amount of aggregate contained in inactive quarries. The results are set out in section 10.

2.4 The national survey included aggregate sales from wharves. However, the AM reports for the South East have always shown the level of landings of marine dredged sand and gravel as provided by The Crown Estate. This is repeated in AM2009 in Table 7, but with a footnote quoting the national survey figure. The AM figure of 5.0Mt exceeds The Crown Estate figure of 4.8Mt by some 200,000 tonnes.

**Berkshire (including Bracknell Forest, Reading, Slough, West Berkshire, Windsor & Maidenhead, and Wokingham), Buckinghamshire, East Sussex (including Brighton and Hove), Hampshire (including Portsmouth, Southampton and New Forest National Park), Kent, Oxfordshire, Surrey, and West Sussex*

*** Isle of Wight, Medway, and Milton Keynes*

2.5 AM2009 includes plans showing the spatial distribution of active quarries, wharves and rail depots. In addition, in view of the dependence of the region on significant levels of imports for the supply of aggregates, this report also includes a plan illustrating the supply pattern for the South East.

3. Regional and Sub-regional Apportionment

3.1 Revised National and Regional Guidelines for Aggregates* were issued by DCLG in June 2009, giving a figure of 12.18mtpa for land won sand and gravel in the South East and 2.2mtpa for crushed rock. This confirmed the figures in the earlier April 2008 consultation draft, to which SEERAWP raised no objection. The Regional Planning Bodies (RPBs) were expected to undertake sub regional apportionment between MPAs within six months, taking into account advice from the MPAs and RAWPs.

3.2 The SE Regional Assembly challenged the consultation draft figures, proposing a lower figure of 9.01mtpa for land-won sand and gravel in a consultation document** submitted to GOSE as an amendment to Policy M3 in the SE Plan. The consultation document proposed a sub regional apportionment of this lower figure based on criteria of demand from existing and future developments and the resource unsterilized by development and outside national environmental designations. The aggregate industry objected to the Assembly's proposals and an EIP was held in October 2009.

3.3 The EIP Panel recommended a regional figure for land won sand and gravel of 11.12mtpa and a sub regional apportionment derived from a fair balance between demand for and presence of aggregate resources. The Panel recommended a figure of 1.44mtpa for crushed rock, apportioned in the same manner as in the current policy.

3.4 The Government Office for the South East (GOSE) published 'Proposed Changes' to Policy M3 in March 2010***. In this the then Secretary of State accepted all the principal findings and recommendations of the Panel, including the regional and sub regional apportionments recommended.

**National and Regional Guidelines for Aggregates Provision in England, 2005-2020 - published by DCLG, June 2009.*

*** Partial Review of the Regional Spatial Strategy for South East England – Review of Policy M3 – Primary land-won aggregates and sub-regional apportionment. Recommendations for amending the policy, published by SEERA, March 2009.*

****The South East Plan The Secretary of State's Proposed Changes Regional Spatial Strategy for the South East Policy M3 – Primary land-won aggregates and sub-regional apportionment, published by GOSE, March 2010.*

Following the election of the Coalition Government, the new Secretary of State issued a letter on 26 July**** revoking Regional Spatial Strategies (RSSs), and giving guidance on planning for aggregate supply without regional targets. Planning Authorities in the South East were advised to work from the apportionment set out in the 'Proposed Changes' to the revision of Policy M3, published on 19 March 2010. Authorities should only use alternative figures if they have new or different information and a robust evidence base. The Secretary of State has confirmed his intention to abolish the RSSs, as set out in the Localism Bill.

3.5 At its meeting in November, SEERAWP MPAs were asked whether their development plans are likely to be based on the figures in the 'Proposed Changes' or not. Three are likely to proceed on this basis, three will be using the figures but will be test their delivery in their Core Strategy, four are to base their plans on local supply issues, and one (Surrey) was at the EIP stage. For comparative purposes, this AM report refers to the 'Proposed Changes' figures as the apportioned figures.

4. Quarries

5.1 In 2009 there were over 100 sites producing aggregates, of which 12 were crushed rock quarries, the remainder being worked for sand and gravel. There were also 37 inactive sand and gravel sites and 7 inactive crushed rock quarries which contain reserves and either could be re-opened or have not yet started production. The list of sites is set out in Appendix C, and site distribution illustrated in maps covering all MPAs in the region.

Land-won Sand and Gravel

5.2 Sales, permissions and reserves data for sand and gravel are shown in Table 1 by county. Sales are shown to be 6 million tonnes (Mt) in 2009, 1.3Mt less than in 2008. Total reserves at the end of the year are 79Mt.

5.3 Table 2 shows the contribution of soft sands and sharp sands and gravels to the sales totals for the ten year period 2000-2009. The decrease in sales in 2009 is due to a fall in sales of both soft sands and sharp sands and gravels. At 4.6Mt, sharp sand and gravel accounts for over 75% of sales, although 7% of this figure is sold as only suitable for constructional fill. A further 600,000 tonnes of sand and gravel was sold for non aggregate uses. Over 90% of sales are distributed by road.

*****Revocation of Regional Strategies, signed by Stephen Quartermain, DCLG Chief Planner*

5.4 The short and medium term trends in sand and gravel sales in the region are shown in Table 3, and Figure 2. Over the last ten years sales have fallen from

12.6Mt in 2000 to 6Mt this year, a decline of over 50%, and reserves have fallen by over 60Mt in the same period. In the years 2000-2006 sales were 2½ times the tonnage of reserves in new planning permissions.

5.5 However, in the last three years the tonnage in permissions have exceeded sales, and in 2009 exceeded sales by over 5.5Mt. In the last three years over 30Mt. has been permitted, matching that permitted in the previous seven years. There is a prospect that this will be continued in 2010 as there were over 15Mt of sand and gravel in undetermined applications at the end of 2009. The details for determination of applications in 2009 and those awaiting a decision are set out in Appendix A.

5.6 Table 3 shows the regional apportionment at 11.12mtpa in 2009. Sand and gravel sales continue the pattern of the last decade of being consistently below the apportionment figure. At 6Mt, sales in 2009 were some 46% below the apportionment.

5.7 Land-won sand and gravel sales continue to supply nearly 50% of the primary aggregate supply contribution from the region despite the decline in sales, as this is matched by falling sales in crushed rock and marine dredged sand and gravel landings.

5.8 The reserves of sand and gravel in the region at the end of 2009, some 79Mt, are shown by county/unitary authority in Table 4 and Figure 3. The regional landbank at that date, based on a regional apportionment of 11.12mtpa, was some 7.1 years. The MPS1 requirement for a regional landbank of at least seven years was met - just.

5.9 However, five of the MPAs have a landbank well below the MPS1 requirement of 'at least 7 years' and difficulties in supply to these and other areas in the region would take place earlier than 2016 if further permissions were not granted. At the average sales of the last 3 years, some 7.3Mt, the landbank would apparently extend to nearly 11 years and such difficulties in supply might not begin to be experienced until 2016. For the prospect for further permissions see 5.5 above.

5.10 There are some 2.2Mt of reserves in two dormant sites, and some 4.2Mt of reserves suitable for non aggregate uses.

Local Crushed Rock

5.11 In 2009 sales in the South East were some 1.3Mt, some 100,000 less than the average for the last three years, and 200,000 less than the average for the last ten years - see Tables 5 and 6 and Figure 5. Over 80% of the local crushed rock was limestone/dolomite, and 50% was sold for uncoated roadstone and foundation work. Only some 130,000 tonnes was sold for non-aggregate uses.

5.12 In the 'Proposed Changes', sales of crushed rock from local sources are proposed at 1.44mtpa. This is in line with average sales as illustrated in Figure 5.

5.13 The reserves of local crushed rock remained at some 48Mt at the end of 2009 (see Table 6 and Figure 6). At 1.44mtpa this provides a healthy landbank of over 30 years. However, sales have exceeded replenishment of reserves through permissions in eight out of

the last 10 years and there were no significant applications in the pipeline at the end of 2009. There were over 6Mt of reserves held for non aggregate purposes.

5.14 Sales and reserves of chalk are not included in the tables in order to maintain comparison with earlier years. Chalk is not normally regarded as an aggregate material, but is used in some circumstances for construction fill in place of aggregate. AM2009 only recorded some 20,000 tonnes used for this purpose, but there are over 11Mt of chalk reserves.

5 Wharves

6.1 There were 37 wharves in the region handling aggregates in 2009 – 29 handled marine dredged sand and gravel, 15 crushed rock - see Appendix C and the map of active wharves.

Landings of Marine-Dredged Sand and Gravel

6.2 Each year The Crown Estate publishes data on landings of marine dredged sand and gravel. Figures for the South East are given in Table 7 and illustrated in Figure 8. The Crown Estate figures show landings of some 4.8Mt of marine dredged sand and gravel in 2009. This is 1Mt less than landed in 2008 and the lowest recorded in the last 10 years. Nonetheless marine aggregate is providing 40% of the primary aggregate supply from the South East.

6.3 AM2009 has recorded 5.0Mt of marine aggregates being landed, 200,000 tonnes more than The Crown Estate figure. AM2009 did not record the origin of the marine dredged sand and gravel landed in the South East, but previous AM reports show that it is received from the East Coast, Thames, South Coast, and (more recently) East English Channel licensed dredging areas.

Imports of Crushed Rock by Sea

6.5 Landings of crushed rock by sea amounted to some 1.5Mt in 2009 – see Table 8 and Figure 8. This is a decrease of some 800,000 tonnes over the 2008 figure. Nearly 80% of the crushed rock was sold for roadstone, railway ballast, concrete aggregate and other screened and graded aggregate, the rest for construction fill. Some 90% of crushed rock imports were received at wharves in Medway and Kent, as in previous years.

6 Rail Depots

Crushed Rock and Sand and Gravel

7.1 Over 2.6Mt of aggregates was recorded as sold from 23 rail depots in the region in 2009, see Table 9 and Figure 7. This compares with over 3.3Mt in 2008, a decline of over 20%. Some 2.3Mt was crushed rock, of which 2.0Mt, over 86% of sales, was for roadstone, railway

ballast, concrete aggregate, armourstone and other screened and graded aggregate. The remainder was sold for construction fill.

7.2 Sales of sand and gravel from rail depots in 2009 amounted to some 0.3Mt. The survey did not distinguish between sales from land won sand and gravel, or from marine landings.

7.3 The list of rail depots is set out in Appendix C and active depots shown on the map of rail depots.

7 Consumption of Primary Aggregates

8.1 AM2009 national and regional survey includes data on the supply of primary aggregates between regions and sub regions. This enables a more accurate picture to be obtained for consumption. AM2009 shows that some 85% of south east sales of land-won sand and gravel and crushed rock and 90% of marine sand and gravel landed at SE ports are retained for consumption within the region. The SE consumed 15.8Mt of primary aggregates: 5.7Mt of land-won sand and gravel, 4.7Mt of marine sand and gravel, and 5.4Mt of crushed rock.

8.2 The South East produced 6.0Mt of land-won sand and gravel, but consumed 5.7Mt, 5Mt from SE quarries and 0.7Mt imported from other regions. Just over 1Mt was exported, 40% to London and 30% to the South West. The SE was therefore a net exporter of a small amount of land-won sand and gravel.

8.3 Some 5.0Mt of marine aggregates were sold from wharves in the South East in 2009. The South East consumed 4.7Mt: 4.4Mt of the 5.0Mt landed at SE wharves, and 0.3Mt imported (90% from London). Some 0.6Mt of marine aggregates was exported, 75% to London. The SE is therefore a net exporter of a small amount of marine aggregates.

8.4 The South East produced 1.3Mt of crushed rock, but consumed 5.4Mt, 1.1Mt of locally produced rock and 4.3Mt of imports. Some 2.7Mt of the imports (over 62%) were from the South West, 0.5Mt (13%) from other regions, and 1.1Mt (25%) from outside England and Wales. The South East is heavily dependent upon hard rock imports which comprise 80% of its crushed rock consumption.

8 Secondary and Recycled Material

9.1 Recycled aggregates and secondary materials were not included in the national AM2009 survey. However, a report on Construction, Demolition and Excavation Waste (CDEW) Arisings, Use and Disposal in England 2008 was undertaken by WRAP for DCLG and published in April 2010*. This identified that the inert fraction of CDEW fell by over 7% in the three year period 2005-2008, from over 89Mt nationally in 2005 to some 83Mt in 2008. However, the production of recycled aggregate from hard inert CDEW had increased by 3% from some 42Mt to 43.5Mt. About 85% of all CDEW is either recovered or beneficially re-used without further processing. There is no breakdown of figures to a South East scale in the report.

9.2 The 2005** National Survey of Arisings and Use of CD&EW suggested that some 6Mt was a 'reasonable indication' of the tonnage recycled as aggregate in the south east region. The WRAP survey does not offer sufficient data to indicate a different figure, but the current state of the economy and reduced activity in the construction sector suggests that recycling is likely to be a lesser figure than 6Mt in 2009. Nonetheless, if at 5.2Mt it would still contribute 25% of aggregate consumption in this region.

9.3 The regional AM2009 regional survey asked operators at fixed sites to provide data on CD&EW and secondary materials. The South East 2009 returns record that just over 2Mt of CD&EW is being recycled as aggregate, 0.7Mt less than last year, with a further 0.6Mt from secondary sources - PFA, rail ballast, FBA, glass and metallurgical slag (in descending order of tonnage). Most if not all authorities had incomplete returns, but over 100 sites are listed in Appendix C. Appendix A includes data on applications for secondary and recycling sites in 2009. Over 1,000,000 tonnes per annum (tpa) capacity was permitted compared with some 200tpa refused.

9.4 It is clear from most MPA returns that the data is incomplete and must be treated with caution. The AM2009 survey cannot be directly compared with the national survey data for the region, as the national survey included recycling by mobile plant. Data from mobile plant would significantly increase the figures for the region quoted above.

**Survey on Construction, Demolition and Excavation Waste (CDEW) Arisings, Use and Disposal in England 2008. WRAP for DCLG, April 2010.*

***Survey of Arisings and Use of Alternatives to Primary Aggregates in England, 2005: Construction, Demolition and Excavation Waste, Capita Symonds for DCLG, November 2006, and Survey of Arisings and Use of Alternatives to Primary Aggregates in England, 2005: Other Materials, Capita Symonds for DCLG, December 2006.*

9 Environment

10.1 The AM2009 survey identifies that 800,000 tonnes was sold from land-won sand and gravel quarries in or partly within a National Park or AONB in the South East, over 2Mt from quarries in or partly within SSSIs or SPA/SACs, and over 2Mt from quarries in or partly within the Green Belt. For crushed rock, less than 300,000 tonnes was extracted from quarries in any such designation.

10.2 In terms of reserves, over 13Mt of sand and gravel lies in or partly within a National Park or AONB, twice that figure, 26Mt lies in or partly within an SSSI/SPA/SAC, and 35Mt in the or partly within the Green Belt. For hard rock, 3Mt lies within or partly within an AONB, 5Mt in or partly within an SSSI and 32Mt in or partly within the Green Belt.

10 Minerals Development Plans and Applications

11.1 The whole of the region is covered by Adopted Plan policies for minerals. All MPAs have submitted a Local Development Scheme (LDS) to the Government Office for the South East under the Planning and Compulsory Purchase Act 2004, and are in the process of preparing or having produced Core Strategies and Minerals (and Waste) Development Plan Documents (DPDs).

11.2 However the process has proved complex and has not run smoothly, with a number of MPAs having to withdraw proposals when well advanced and make re-submissions. The position at February 2010 is set out in Appendix B. Only one MPA, Hampshire, has an adopted Core Strategy and a preliminary hearing has been held into the Isle of Wight Core Strategy in 2009. Of the other MPAs, Surrey is most advanced, but at least 4 MPAs are not programmed to submit their Core Strategy to the Secretary of State until late 2010 or 2011. Many Minerals DPDs identifying sites lag further behind.

11.3 The AM2009 regional survey sought to identify the aggregate tonnage in allocated areas in adopted development plans that had not been a subject of an application, and whether permissions and refusals 2006-2009 reflected the designations. It also sought in round terms to establish the reserve tonnage in permitted sites that would not be or was unlikely to be worked within the next seven years. A summary of the findings follows:

- The estimated tonnage in allocated areas not yet subject to an application at 31 December 2009 was some 26Mt, of which some 8Mt was in specific sites, the majority, some 18Mt, was in preferred areas.
- Between 2006 and 2009 over 22Mt of aggregates was permitted within designated areas, and only one 2Mt application refused. The success rating for applications in designated areas has therefore been over 90%.
- Some 10Mt was permitted in applications outside any designation, nearly half as much as within designations, and 2.8Mt refused. The success rating for applications outside designated areas was over 70%.

- Applications containing over 3Mt of aggregate were withdrawn in the four year period, but some of these may subsequently have been subject of amended proposals.
- There remained some 14.4Mt of aggregates in 10 undetermined applications at the end of 2009, most of which were in non designated areas.
- There were nearly 40 inactive quarries containing some 12Mt of sand and gravel reserves and some 3Mt of rock reserves. Some 7.7Mt was in quarries that have been permitted but not started, 4.6Mt in quarries that have been worked in the past and still have reserves. Only some 4Mt was identified as not to be worked or unlikely to be worked within 7 years.

TABLE 1: SAND & GRAVELS - SALES, PERMISSIONS AND RESERVES 2009 (MPA & SE Region, thousand tonnes)

County	Soft Sand (Building Sand)				Sharp Sands and Gravels				Total: All Sands and Gravels			
	Reserves at start of year	Sales during year	Permissions during year	Reserves at end of year	Reserves at start of year	Sales during year	Permissions during year	Reserves at end of year	Reserves at start of year	Sales during year	Permissions during year	Reserves at end of year
Berkshire Unitaries	c	c	0	c	c	c	2,074	c	12,566	840	2,074	9,991
Buckinghamshire	2,270	53	0	1,536	11,231	661	0	10,045	13,501	713	0	11,581
East Sussex	c	c	0	c	c	c	0	c	c	c	0	c
Hampshire	2,936	101	0	1,073	4,694	953	7,576	5,712	7,631	1,054	7,576	6,785
Isle of Wight	258	19	0	220	190	44	320	1,180	448	63	320	1,400
Kent	10,327	598	224	4,779	9,932	764	0	11,974	20,259	1,362	224	16,753
Medway	0	c	0	0	c	c	0	c	c	c	0	c
Milton Keynes	0	c	0	0	c	c	0	c	c	c	0	c
Oxfordshire	1,231	166	0	1,127	5,687	462	0	7,928	6,918	628	0	9,055
Surrey	7,958	311	0	6,650	2,315	537	1,485	4,219	10,273	848	1,485	10,869
West Sussex	5,133	50	0	0	85	237	0	379	5,218	287	0	5,462
Totals	30,664	1,387	224	21,296	54,029	4,620	11,455	57,750	84,694	6,007	11,679	79,046

Source: AM2009 Survey

Footnotes to Table 1

c = confidential figure or figure which cannot be recorded without revealing a confidential figure

0 = nil sales or less than 500 tonnes

The figures include estimates for sites for which returns were not received

The estimated reserves at a number of sites were revised following re-assessment by operators during the year; accordingly, reserves at the end of the year cannot be calculated by subtracting sales and adding permissions.

The figures for sharp sands and gravels include some 7% sold for construction fill.

E Sussex: reserves include some sharp sands and gravels not likely to be worked before 2014

The reserves do not include over 4Mt in Kent & Surrey allocated for non aggregate use, or 2Mt in two dormant sites in Berks and Bucks

TABLE 2: SALES OF SOFT SAND AND SHARP SAND AND GRAVEL 2000-2009

(SE Region, thousand tonnes)

YEAR	Soft Sand		Sharp Sands and Gravels		All Sands and Gravels	
	Sales	% change on previous year	Sales	% change on previous year	Sales	% change on previous year
2000	3234	-12	9119	-5	12630	-7
2001	3067	-5	9382	3	12449	-1
2002	3,064	0	8,418	-10	11,484	-7
2003	2,662	-13	7,976	-5	10,638	-7
2004	2,624	0	7,781	-2	10,405	-2
2005	1,749	-33	7,604	-5	9,713	-6
2006	1,776	1	7,027	-8	8,804	-9
2007	1,906	7	6,596	-4	8,502	-3
2008	2,268	19	5,031	-24%	7,299	-14%
2009	1,387	-39	4,620	-8%	6,007	-18%
Percentage Change 2000-2009		-57%	-49%		-52%	

Sources: AM2008 Table 3 and Table 1 of this report

Note: from 2001 aggregate for construction fill has been included with sharp sand and gravels

TABLE 3: SANDS AND GRAVELS - COMPARISON BETWEEN REGIONAL APPORTIONMENT, SALES, PERMISSIONS AND RESERVES 2000-2009

(SE Region, million tonnes)

Year	Regional Apportionment	Sales	Planning permissions	Reserves
2000	16.5	12.6	6.9	139.6
2001	13.25	12.4	5.6	129.7
2002	13.25	11.5	6.5	121.4
2003	13.25	10.7	3.4	97.1
2004	13.25	10.4	2.9	80.8
2005	12.18	9.7	4.6	87.3
2006	12.18	8.8	*0.6	76.4
2007	12.18	8.5	#9.9	78.1
2008	12.18	7.3	8.8	84.7
2009	11.12	6.0	11.7	79.0
10 year total		97.9	60.9	
10 year average		9.8	6.1	
last 3 year average		7.3	10.1	

Sources: 'Proposed Changes' to Policy M3, AM2008 Table 3, AM2009 survey

* includes +0.3 correction by Surrey from AM2006 published figure

includes -0.7 correction by Berks from AM2007 published figure

TABLE 4: SAND & GRAVEL LANDBANK at end 2009

(SE Region)

Area	All Sands and Gravels		
	Apportionment (million tonnes)	Reserves (thousand tonnes)	Landbank at end of 2008 (years)
Berkshire Unitaries	1.33	9,991	7.5
Buckinghamshire	1.05	11,581	11.0
East Sussex	0.10	c	>7
Hampshire	2.05	6,785	3.3
Isle of Wight	0.10	1,400	14.0
Kent	1.63**	16,753	11.8
Medway	0.18**	c	<7
Milton Keynes	0.28	c	<7
Oxfordshire	2.10	9,055	4.3
Surrey	1.27	10,869	10.0
West Sussex	1.03	5,462	5.3
TOTAL	11.12	79,046	7.1

Sources: 'Proposed Changes' to Policy M3 and Table 1 of this report

**working subdivision between Kent and Medway

Footnote to Table 4

c = confidential figure, or figure which cannot be identified without revealing a confidential figure

TABLE 5: CRUSHED ROCK - SALES, PERMISSIONS AND RESERVES IN 2009

(SE Region, thousand tonnes)

County	Reserves at start of year	Sales during year	Permissions during year	Reserves at end of year
Isle of Wight	c	c	0	c
Kent	c	c	0	c
Oxfordshire	12,592	433	450	11,890
Surrey	c	0	0	c
West Sussex	c	c	0	c
Totals	48,500*	1,300	450	48,000*

Source: AM2008 Table 6 and AM2009 survey

Footnotes to Table 5

To be comparable with previous years, sales, permissions and reserves figures do not include chalk.

Over 50% of sales and nearly 30% of reserves are only suitable for constructional fill

*Figures rounded to preserve confidentiality

TABLE 6: CRUSHED ROCK - SALES, PERMISSIONS AND RESERVES 2000-2009

(SE Region, thousand tonnes)

Year	Sales	Permissions	Reserves	Years life at 2.2mtpa from 2001, 1.56mtpa from 2005 and 1.44mtpa from 2009
2000	1.7*	0	43.8*	
2001	2.4	0.1	53.0	24.1
2002	1.6	0	51.9	23.6
2003	1.2	0	52.4	23.8
2004	1.4	5.6	56.4	25.6
2005	1.6	2.3	53.8	34.5
2006	1.3	0	51.5	33.0
2007	1.5	0.4	50.5	32.4
2008	1.4	0.6	48.5	31.1
2009	1.3	0.5	48.0	33.3
10 year total	15.4	9.5		
10-year average	1.5	1.0		
last 3 year average	1.4	0.5		

Source: AM2008 Table 6 and AIAM2009 survey

Figures: are for locally won rock, and do not include chalk to be comparable with Table 5

Footnote to Table 6

*Oxfordshire figures did not include ironstone produced for aggregate

TABLE 7: LANDINGS OF MARINE DREDGED SAND AND GRAVEL 2000-2009

(MPA & SE Region, thousand tonnes)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
East Sussex	346	430	350	323	302	176	202	217	205	114
Hampshire	1620	1698	1715	1763	1,615	1,441	1,535	1,692	1,437	1,046
Isle of Wight	179	151	130	208	91	118	148	137	100	59
Kent	1,823	1716	1,856	1,804	1,498	1,669	1,818	2,062	1,813	1,409
Medway	1,693	1,706	1,751	1,672	1,440	1,268	1,409	1,582	1,488	1,416
West Sussex	743	801	774	747	720	815	768	817	785	755
Totals	6,404	6,502	6,575	6,517	5,666	5,487	5,880	6,507	5,828	4,800

Source: The Crown Estate, port statistics for marine dredged aggregates

Footnotes to Table 7

Note: Shoreham harbour landings are included in West Sussex figures

AM2008 survey = 5.6Mt and AM2009 survey recorded 5.0Mt (inc estimate for E Sussex)

Regional Guideline assumption for marine dredged sand and gravel landings in SE 2005-2020 = 7.6mtpa

TABLE 8: IMPORTS OF CRUSHED ROCK BY SEA 2000-2009

(MPA & SE Region, thousand tonnes)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
East Sussex	164	37	176	176	176	93	93	181	145	26
Hampshire	306	328	436	385	360	360	313	c	c	c
Isle of Wight	c	c	c	c	c	c	n/a	c	c	c
Kent & Medway	4326	3,159	3,142	2,973	2,561	1980	2,098	2,780	2,067	1,344
West Sussex	365	236	264	223	43	47	n/a	c	c	c
Totals	5170*	3790*	4050*	3800*	3170*	2500*	2500*	3,000*	2,300*	1,500*

Source: AM2007 Table 9 and AM2008 survey

Footnotes to Table 8

c = confidential, or if identified will release another confidential figure.

Medway included with Kent as both figures would otherwise be confidential

* = figure rounded to avoid revealing a confidential figure

Guideline assumption for net imports of aggregate to SE from outside England 2000-2016 = 5.3mtpa, 2005-2020 = 1.9mtpa

TABLE 9: SALES OF AGGREGATE AT RAIL DEPOTS 2003-2009

(thousand tonnes)

County	n/a	n/a	n/a	2003	2004	2005	2006	2007	2008	2009
Berks and Hants				2,095	2,299	1,762	1,737	1,935	1,369	1,094
Bucks, Milton Keynes and Oxfordshire				996	689	790	791	887	733	447
Kent				359	582	575	572	594	581	414
Surrey & West Sussex				594	587	557	557	669	657	621
Totals				4,044	4,157	3,685	3,657	4,085	3,340	2,576

Source: AM2003-2009 regional surveys.

Footnotes to Table 9

nearly 90% of the aggregate received at rail depots is crushed rock

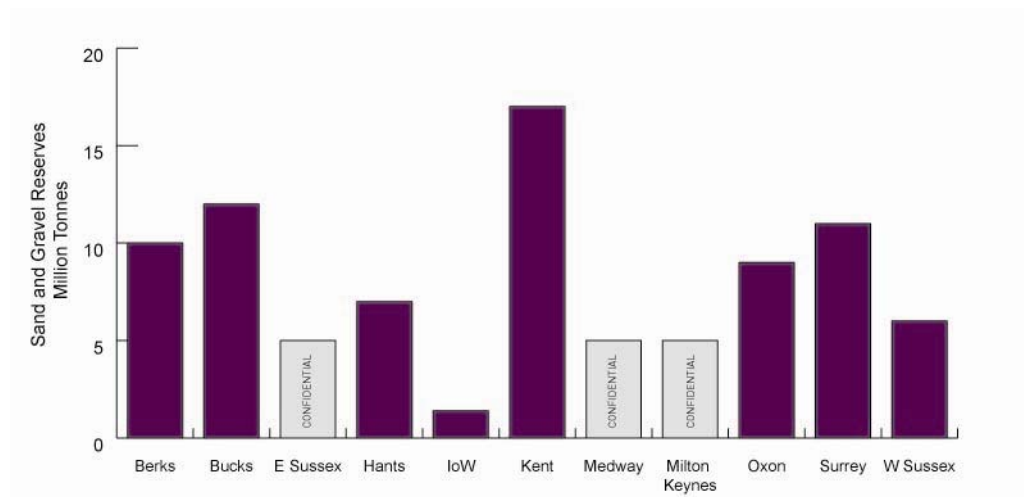
The 10% sand and gravel includes small amounts from quarries or wharves within the SE.

Figure 2: Sand and gravel sales compared with regional apportionment and permissions, 2000-2009



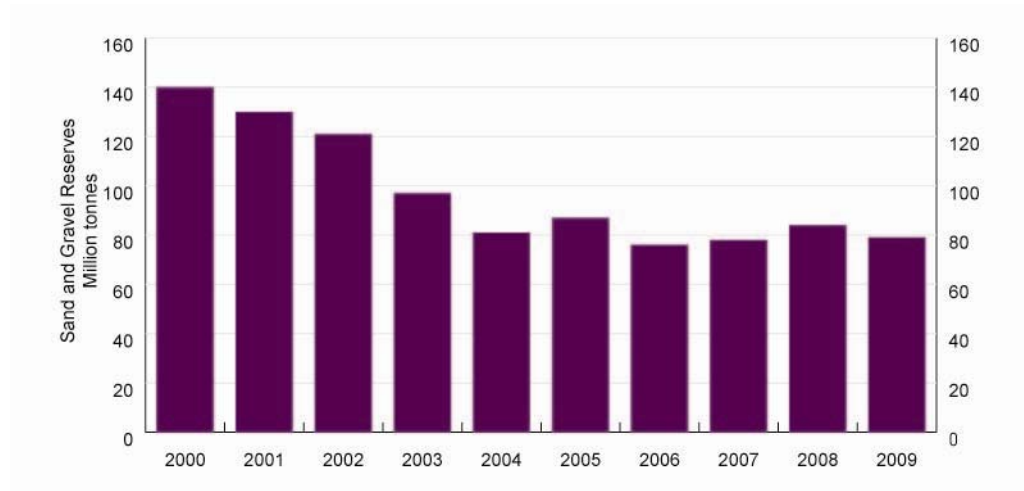
Source: Table 3

Figure 3: Sand and gravel reserves at the end of 2009 (MPA and South East region)



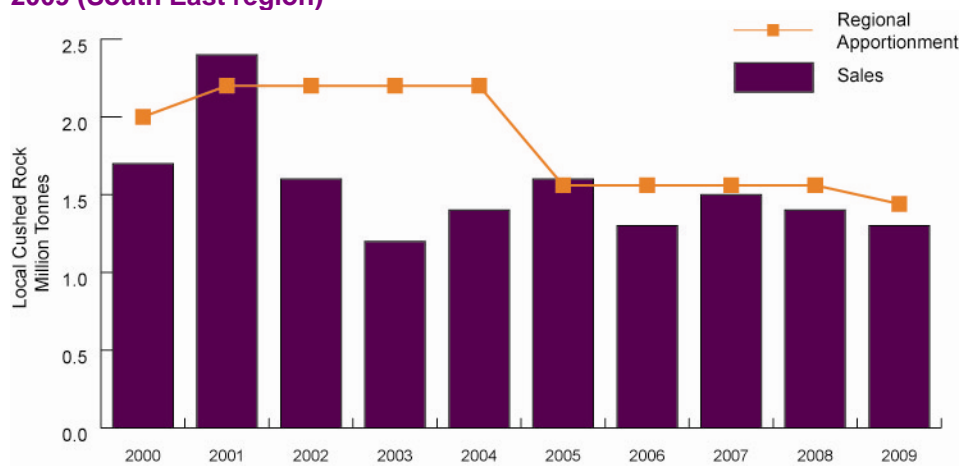
Source: Table 4

Figure 4: Reserves of sand and gravel, 2000-2009 (South East region)



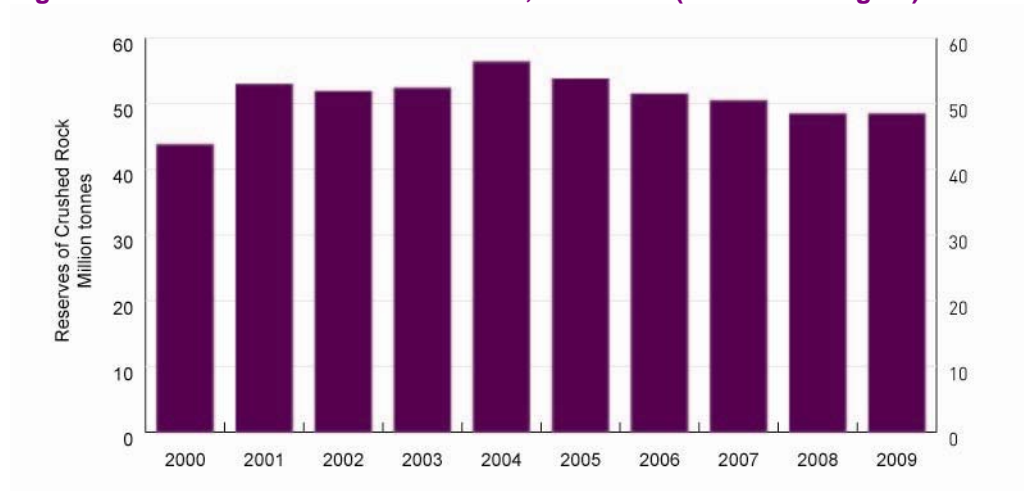
Source: Table 3

Figure 5: Sales of local crushed rock compared with regional apportionment, 2000-2009 (South East region)



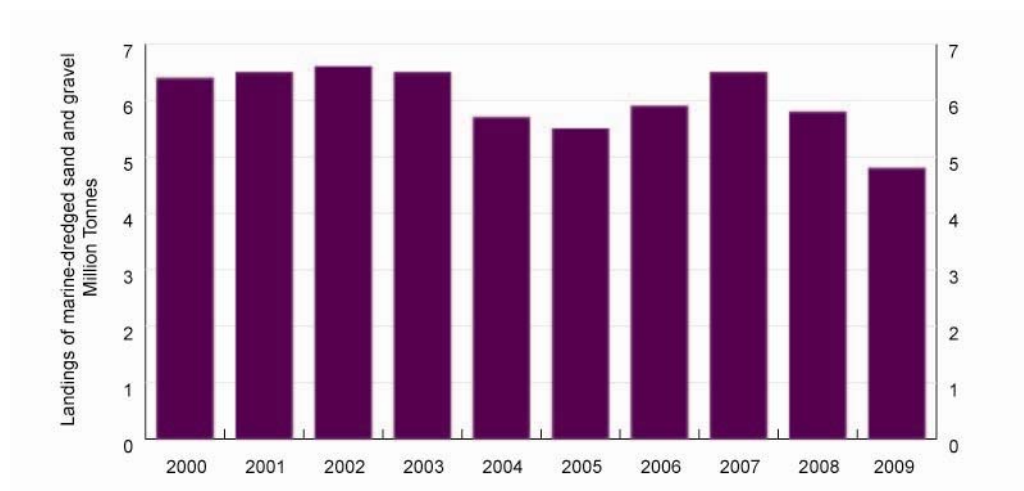
Source: Table 6

Figure 6: Reserves of local crushed rock, 2000-2009 (South East region)



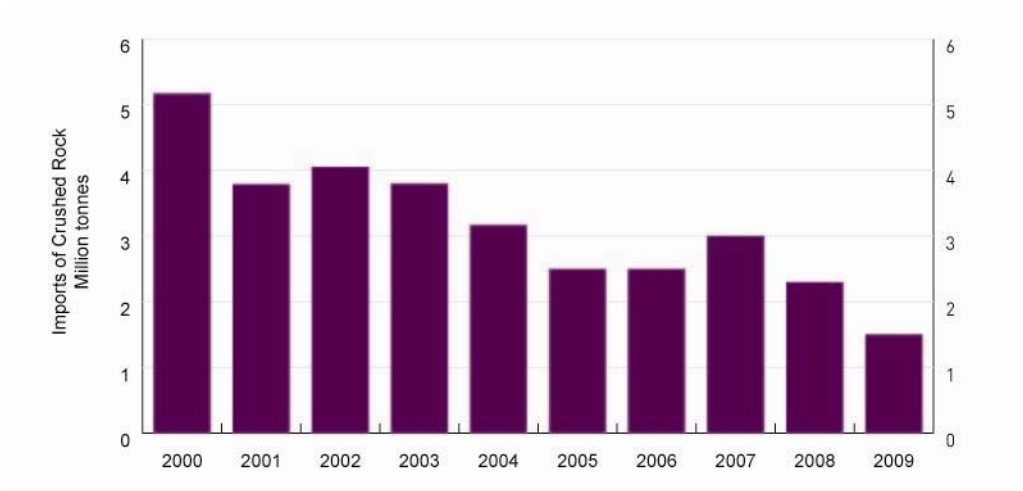
Source: Table 6

Figure 7: Landings of marine-dredged sand and gravel, 2000-2009



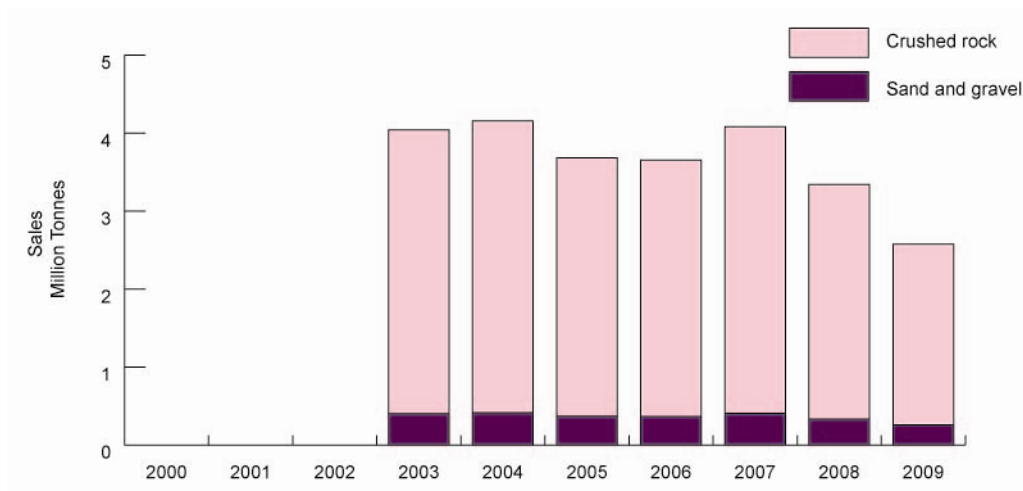
Source: Table 7

Figure 8: Imports of crushed rock by sea, 2000-2009 (South East region)



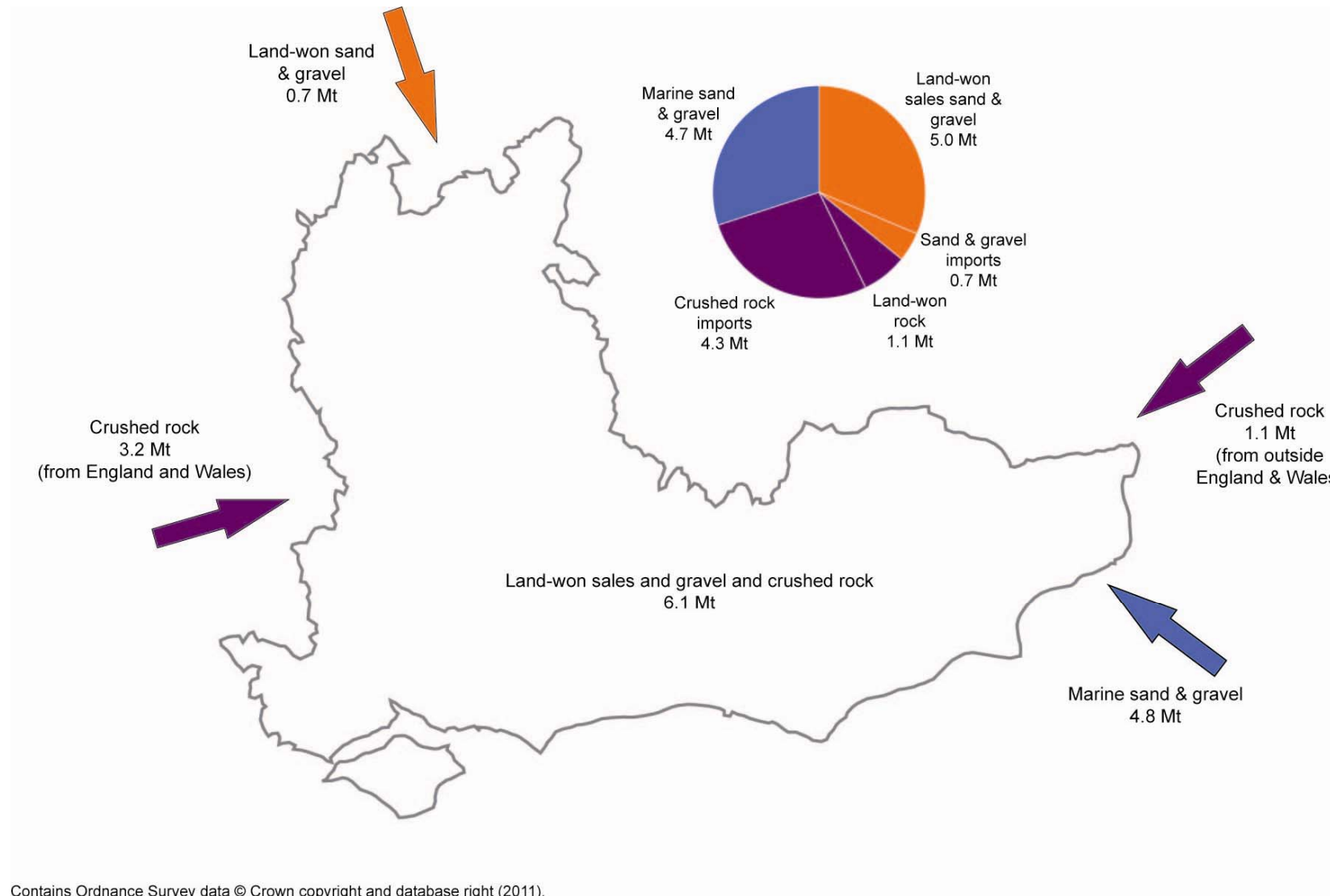
Source: Table 8

Figure 9: Sales of aggregates at rail depots, 2003-2009 (South East region)



Source: Table 9

Figure 10: Primary Aggregate Consumption 2009 (South East region)



Contains Ordnance Survey data © Crown copyright and database right (2011).

Figure 11: Sand and gravel reserves at the end of 2009 (MPA and South East region)

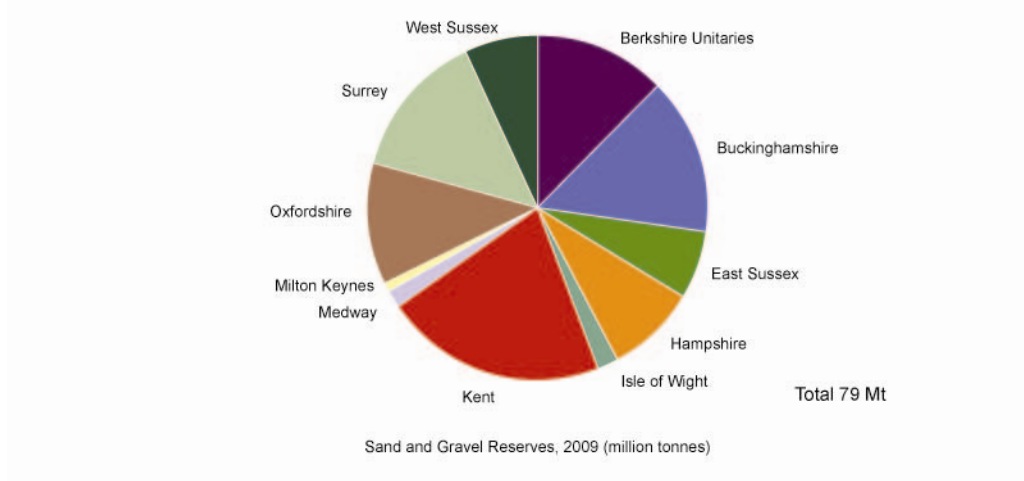


Figure 12: Crushed rock reserves at the end of 2009

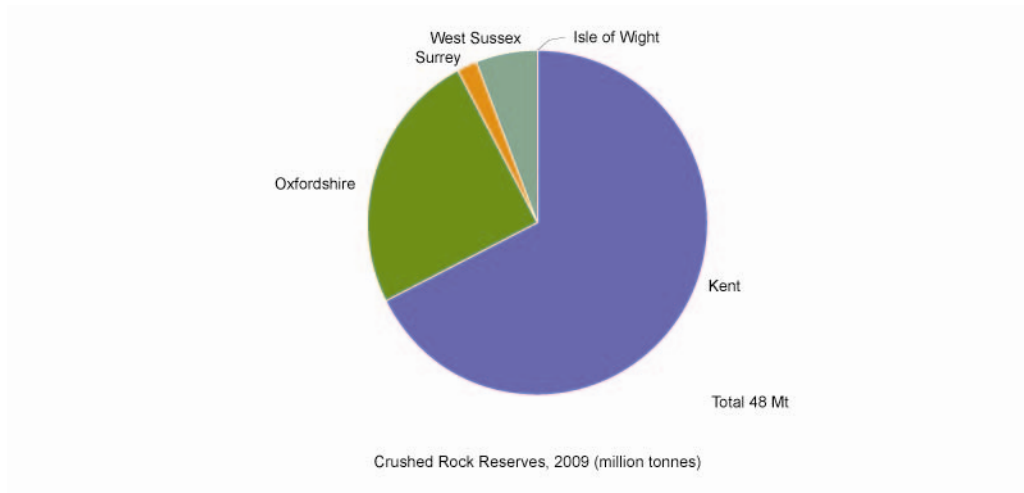


Figure 13: Landings of Marine Dredged Sand and Gravel, 2009 (MPA and South East region)

