JOINT LOCAL AGGREGATE ASSESSMENT

Greater Manchester, Merseyside and Halton, and Warrington

December 2016

Prepared on behalf of the 17 Mineral Planning Authorities of:

Greater Manchester (including Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford and Wigan)

Merseyside and Halton (including Knowsley, Liverpool, Sefton, St Helens and Wirral)

Warrington Borough Council

Executive Summary

The requirement to produce an annual Local Aggregate Assessment (LAA) was introduced from March 2012 when the National Planning Policy Framework was introduced. Government then issued further guidance on planning for minerals through the National Planning Practice Guidance (NPPG), which incorporated and refreshed guidance relating to the Managed Aggregate Supply System (MASS). From the outset the Minerals Planning Authorities of Greater Manchester, Merseyside and Warrington (17 unitary local authorities) have worked together to produce a series of joint LAAs, reflecting their status as a single aggregate apportionment sub-region under MASS. This is the 4th LAA to be produced in that way and covers aggregate supply in the sub-region in the year 2015.

Sales for land-won sand and gravel in 2015 report a continuation of the gradual recovery in sales from their low point in 2010, while remaining considerably below the pre-recession peak recorded for 2008. This trend is expected to continue over the next 3-5 years. Sales for land-won crushed rock show a similar picture of recovery since 2010 and can also be expected to continue to grow in the short-term.

Most sites for the production of land-won material are located in Greater Manchester, which has seen one recent site closure and one new consent. However the general trend has been one of declining reserves within the sub-region due in large part to the heavily urban nature of the area and the lack of workable aggregates resources within it. Although the sub-region remains compliant with its land-bank obligations for the moment, it is likely to become more challenging to maintain this position over time. The sub-region therefore imports considerable amounts of aggregate and has an important and developing market in secondary and recycled material that helps to reduce the amounts of primary aggregate required.

The sub-region is an important landing point for marine-won sand and gravel from the licensed dredging areas offshore and its wharves also handle significant shipments of crushed rock from quarries elsewhere in the UK. The offshore dredging areas currently operate well within their licensed extraction limits and would be able to increase supply should market growth continue.

Summary of main conclusions from this LAA

	Performance in 2015 (mt)	In comparison to previous year
Land won sand and gravel sales (tonnes)	0.31	▲+0.05
Permitted reserves of sand & gravel (tonnes)	3.7	▼-0.16
Landbank (years)	12.3	▼-0.15
Land won crushed rock sales (tonnes)	0.79	▲+0.1
Permitted reserves of crushed rock (tonnes)	20.43	▼-0.75
Landbank (years)	29.19	▲+0.57
Marine won sand & gravel	0.26	▲+0.1
Marine license tonnage (million tonnes per annum) NW waters offshore license areas	1.3	N/A

CONTENTS

1. Introduction

Local Aggregates Assessment Background

1.1. The National Planning Policy Framework (NPPF), published in March 2012, introduced a requirement for Mineral Planning Authorities (MPAs) to plan for a steady and adequate supply of aggregates by preparing an annual Local Aggregate Assessment (LAA). This should be based on a rolling average of 10 years sales data and other relevant local information and an assessment of all of the supply options (including marine dredged, secondary and recycled sources)[1]. The guidelines specify that this can be done either individually or jointly by agreement with another or other mineral planning authorities. National Planning Practice Guidance also states that MPAs should also look at average sales over the last three years in particular to identify the general trend of demand as part of the consideration of whether it might be appropriate to increase supply.

1.2. In April 2015, The Planning Officers Society and Minerals Products Association have developed the living document, 'Practice Guidance on the Production and use of Local Aggregate Assessments', which seeks not to duplicate the advice in The Planning Practice Guidance (PPG) but to build on it, drawing on practice since LAAs were introduced.

1.3. The PPG advises that an LAA should contain three elements:

- a forecast of demand for aggregates based on both the rolling average of 10 years sales data and other relevant local information;
- an analysis of all aggregate supply options as indicated by landbanks, plan allocations and capacity data; and
- an assessment of the balance between demand and supply.

Production of a Joint LAA

1.4. The Association of Greater Manchester Authorities (AGMA), the Merseyside authorities, including Halton (working through Merseyside Environmental Advisory Service (MEAS)) and the unitary authority of Warrington (known as the 'sub-region') have decided to continue to work together by collaborating in the production of this document, the third of its kind, in order to satisfy the duty to co-operate imposed by Section 110 of the Localism Act and due to established links from previous sub-regional working. Also, the data available for the Greater

[1] Paragraph 145, NPPF

Manchester and Merseyside (including Halton) authorities and Warrington for the production of any LAA is only available at this sub regional level and cannot, for reasons of commercial confidentiality, be disaggregated to an individual authority level.

1.5. In order to satisfy section 110 of the Localism Act, this LAA will be issued to the North West Aggregate Working Party (AWP), West Midlands AWP, East Midlands AWP, Yorkshire and Humber AWP and North Wales AWP. We will prepare an updated LAA following any comments received.

1.6. The LAA, along with all others produced in the region, has been put through a process of consultation and an advisory report has been produced. The advice has been taken into account as is required by para 145 of the NPPF.

1.7. This LAA provides an assessment of the demand for and supply of aggregates in the sub-region based on an average of 10 year sales data, 3 year sales data, and other relevant local information, and an assessment of all supply options. The LAA is a factual based monitoring document that will act as an evidence base to assist the individual Mineral Planning Authorities (MPAs) in their policy formulation. A summary of the key messages for individual MPAs can be found in Section 12.

Study Area

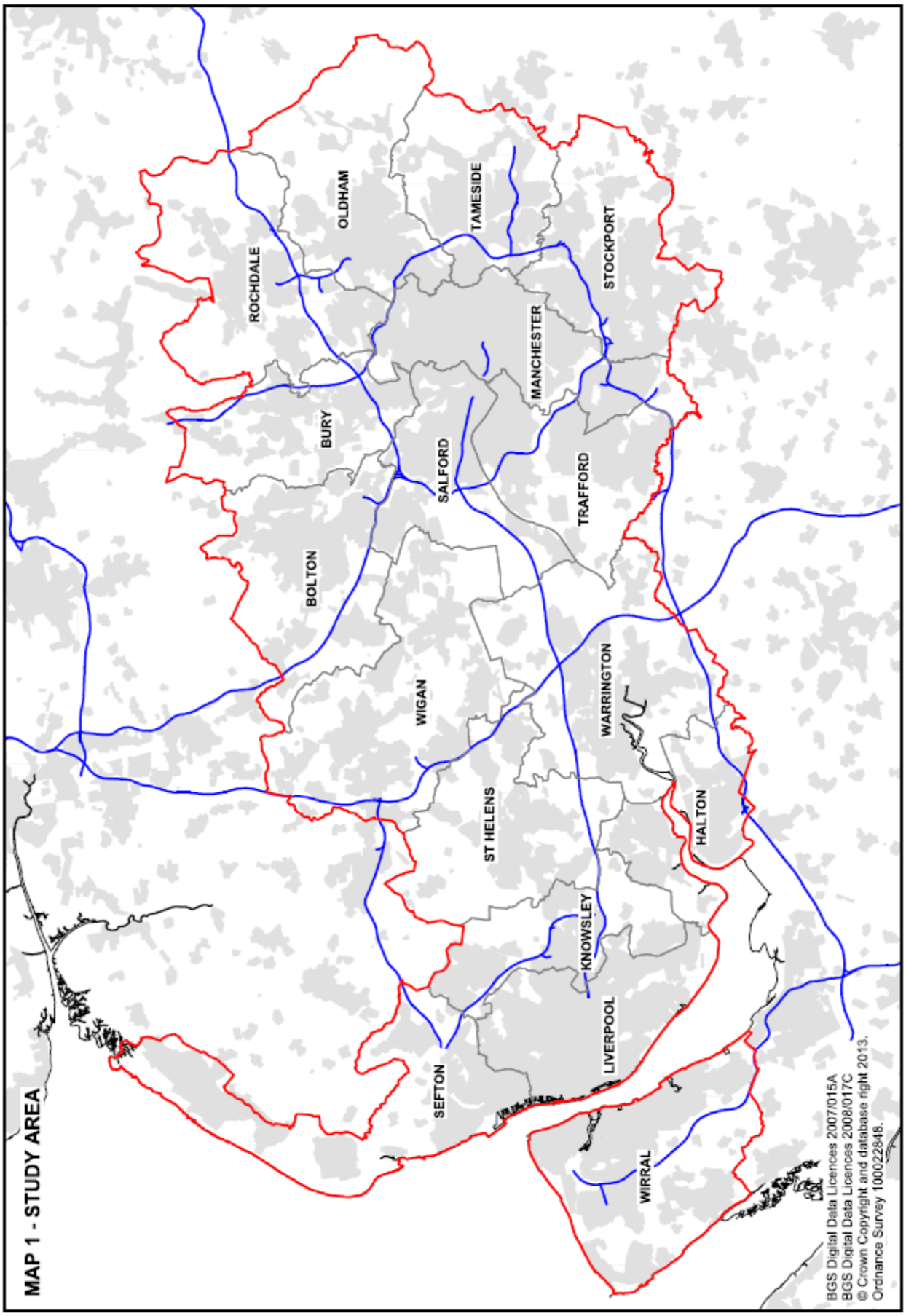
1.8. The study area covers the ten Metropolitan Districts of Greater Manchester; the five Metropolitan Districts of Merseyside and the Unitary Authorities of Halton and Warrington. These are detailed on Map 1 below and summary pen pictures of the components of the study area are also provided.

Greater Manchester

1.9. Greater Manchester is the second largest conurbation in the UK with a population of over 2.6 million. Much of the land is urban; however, there are large rural areas, especially in the North which is where mineral working tends to occur. Greater Manchester is bounded by Lancashire, West Yorkshire, Derbyshire, Cheshire and Merseyside and is a major transport hub. The M60 motorway encircles the conurbation, with major road links leading from it. Greater Manchester relies on imports of high specification aggregates from quarries in North Wales, Derbyshire, Lancashire, Cumbria, Staffordshire and Cheshire. Materials are mainly

transported by road and, to a lesser extent, rail. Greater Manchester is heavily reliant upon the importation of minerals from the Peak District National Park.

1.10. The natural landscape is very important for biodiversity, and it contains a wide variety of habitats including ancient woodlands, moorlands, mosses, broadleaf woodland, rivers and ponds, and bogs. As a consequence, a number of sites within Greater Manchester have been designated for their biological, cultural, archaeological and heritage importance.


MAP 1 - STUDY AREA
ROCHDALE
OLDHAM
TAMESIDE
STOCKPORT
MANCHESTER
BURY
SALFORD
TRAFFORD
BOLTON
WIGAN
WARRINGTON
ST HELENS
HALTON
KNOWSLEY
LIVERPOOL
SEFTON
WIRRAL
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Ordnance Survey 100022848.

Merseyside and Halton

1.11. Merseyside and Halton is a coastal conurbation strongly influenced by the River Mersey and its estuary. Although highly urbanised with a population of approximately 1.5 million, between 33% and 50% of each of the constituent unitary local authorities is designated Green Belt and contains a high proportion of high quality agricultural land, which remains economically significant. There has been extensive working of minerals in the area in the past, but the limited nature of the remaining resources and presence of significant spatial and environmental constraints has led to a significant decline in the number of working sites and their production in recent years.

1.12. Merseyside and Halton is bounded by Lancashire, Cheshire, Warrington, Greater Manchester and North Wales and has major road links through the M6, M62, M58, M53 and M56. Like Greater Manchester, Merseyside and Halton rely on imports of high specification aggregates from quarries in North Wales, Derbyshire, Lancashire, Cumbria, Staffordshire and Cheshire, as well as those transiting the area's port facilities. Materials are transported by sea, road and rail.

1.13. The Merseyside and Halton economy has a strong maritime focus with significant port facilities through which aggregate minerals are imported and processed for onward transport to the point of use. These include sand and gravel from off-shore dredging in the Irish Sea and crushed rock materials shipped from other land-won sources, notably the Glensanda quarry in the west of Scotland.

1.14. The environment of Merseyside and Halton is highly sensitive and large areas, particularly along the coast and estuaries of the Mersey, Dee and Ribble, have protected status to a very high level due to their value for a range of important habitats and species. The City of Liverpool also contains a World Heritage Site recognising the historic, cultural and architectural value of the maritime quarter of the city centre and docks.

Warrington

1.15. Warrington Borough is the most northerly of the local authorities in the former Cheshire area. It shares boundaries with Halton, Cheshire West and Chester, Cheshire East and the four metropolitan boroughs of St Helens, Wigan, Salford and Trafford. The borough covers some 176 square kilometres and has a population of just over 207,000.

1.16. Warrington lies at the hub of the region's communications network. The M6, M56 and M62 motorways intersect within the borough, providing good access to all parts of the region and beyond. Warrington also lies on the region's main North-South (West Coast Main Line) and East-West (Trans-Pennine) rail routes. Two significant waterways pass through the middle of the borough; the River Mersey, which passes close to the Town Centre and, further south, the Manchester Ship Canal. The Manchester Ship Canal is an important commercial waterway linking the Port of Manchester with the Mersey and also plays a vital role in managing fluvial flood risk along the Mersey, significantly reducing the incidence of flooding from fluvial flows.

1.17. The Mersey Valley Corridor constitutes a wide tract of land (exceeding 2kms in places) extending across the borough from Fiddlers Ferry Power Station in the west, to Hollins Green and the flood plain of the River Bollin in the east. Its value lies in the mix of river valley habitats, notably wetlands, in the context of the Mersey Estuary as a whole - one of the largest estuaries in Europe and supporting internationally important numbers of birds.

1.18. Warrington also has extensive areas of high-grade agricultural land, a varied landscape character, and important areas of nature conservation value, mostly within the relatively narrow gaps of open land separating Warrington from neighbouring towns and smaller settlements within and beyond the borough.

1.19. Due to its largely urban nature, the major transport infrastructure that dissects the borough and the ecological habitat along the Mersey Valley Corridor mineral activity in Warrington is limited and as a consequence the borough relies on imports of aggregates the same as the other areas in the sub-region. Materials are mainly transported by road.

Status of Mineral Planning in the Study Area

Greater Manchester

1.20. The ten Greater Manchester Authorities have worked together to produce a Joint Minerals Plan. The Minerals Plan considers all aspects of Minerals Planning including: aggregate apportionments; identification of Minerals Safeguarding Areas (MSAs); identification and safeguarding of sites for minerals development in the area; ensuring a steady and adequate supply of minerals within the sub-region; identifying and safeguarding sites for the provision of secondary and recycled materials; and development management

policies for minerals development. The Minerals Plan sets the planning framework for minerals development in Greater Manchester.

1.21. The Greater Manchester Minerals Plan was found sound in January 2013, following an Examination in Public. It was adopted on 26th April 2013 by all ten authorities and forms part of each District's Local Plan.

1.22. The Greater Manchester Combined Authority (GMCA) is working to produce a joint plan to manage the supply of land for jobs and new homes across Greater Manchester. The Greater Manchester Spatial Framework (GMSF) will ensure that Greater Manchester has the right land in the right places to deliver the homes and jobs needed up to 2035, along with identifying the new infrastructure (such as roads, rail, Metrolink and utility networks) required to achieve this.

1.23. The GMSF will provide an overarching development plan within which Greater Manchester's ten local planning authorities can identify more detailed sites for jobs and homes in their own area.

1.24. Consultation on the vision and draft strategic options took place from November 2015 – January 2016, the responses to which have been published and a Draft GMSF will be issued for consultation in autumn 2016. A call for sites is also currently ongoing so submitted sites can be included within the consultation on the draft GMSF. It is expected that, following submission and examination, the GMSF will be adopted in 2018.

1.25. Planning for minerals across Greater Manchester will continue to be through the Greater Manchester Minerals Plan, with annual monitoring and the Local Aggregate Assessment informing the need or not for a review.

Merseyside and Halton

1.26. The six authorities are each independently considering minerals matters within their broader Local Plans. There are no plans to produce a common plan or separate Minerals Local Plans within each authority. However, specific policies for minerals planning issues will be included within local plan documents as appropriate and all of the authorities intend to continue to work within the Managed Aggregate Supply System and to participate in the NW Aggregates Working Party. Merseyside and Halton authorities will prepare their plan coverage in full compliance with the requirements of Duty to Co-operate.

1.27. Of the 6 authorities, plan preparation progress is at different stages and the structure of plan documentation is likely to vary between them as a result. Halton and St Helens achieved adoption of their Local Plan Core Strategies in 2012, while Knowsley had its Local Plan Core Strategy adopted in December 2015. Sefton underwent examination in public on its Local Plan in November 2015 and the plan will undergo a modification process during 2016. Wirral expects to submit its Local Plan Core Strategy in July 2016. Liverpool is working towards submission of its Local Plan in the Winter of 2016.

1.28. Sefton and Liverpool will prepare single-document comprehensive Local Plans inclusive of site allocations and development management policies. Other districts are reviewing stated intentions to cover allocations in additional local plan documents and may instead opt to produce comprehensive local plans in replacement of Core Strategy documents.

1.29. The Liverpool City Region now has a formally constituted Combined Authority and a devolution agreement with Central Government. This will entail the development of a Statutory Spatial Framework for the City Region, which will support the delivery of strategic employment and housing development and which future local plans will be in general conformity with. As a strategic planning document setting the agenda for major development schemes, the Spatial Framework will have implications for the aggregates market in the Liverpool City Region and, in due course, future Local Aggregates Assessments will need to take account of it. However, the timetable for the creation and adoption of a Spatial Framework for the LCR envisions that a Spatial Framework will be adopted in 2020 and will be the responsibility of an elected City Region Mayor who will be in office in 2017.

Warrington

1.30. The Warrington Local Plan Core Strategy (LPCS) was adopted in July 2014. The LPCS contains one policy (MP9) dealing with mineral issues. This indicates that the Council will bring forward a Minerals Local Plan Document that identifies and safeguards preferred sites for mineral extraction; encourages the use of recycled and secondary aggregates; promotes the use of sustainable modes for the transport of minerals and specifies that will be taken into consideration for mineral related development. The intention was that this work would commence immediately upon adoption of the LPCS. However, a successful High Court Challenge resulted in the removal of elements of the housing policies from the Plan and has necessitated a change to the planned programme published in the 2012 Local Development Scheme (LDS). A new work programme is now proposed that will see the preparation of a

single Local Plan that will incorporate minerals issues. A revised LDS will be published towards the end of 2016 setting out the new work programme.

2. Geology

Sub Regional Geology

2.1. The oldest rocks in the sub-region are of Carboniferous age and can be found at the far eastern and northern upland fringes of Greater Manchester, where they outcrop. They comprise sequences of mainly coarse grained sandstones and gritstones.

2.2. The upland areas give way to progressively younger rocks to the south and west. At first these are represented by the Carboniferous Pennine Coal Measures. Comprising sequences of mainly coarse grained sandstones and gritstones, these are the oldest rocks in Merseyside where they are found in the northeast, primarily in St Helens. They are found in a thick band across Greater Manchester and at the northwestern tip of Warrington.

2.3. The Pennine Coal Measures give way to progressively younger, Permo-Triassic rocks to the south and west of the sub-region. These cover much of Merseyside and Warrington.

2.4. Extensive areas of the sub-region are covered with superficial drift deposits of Pleistocene to recent age. These are dominated by glacial tills ('boulder clay') laid down by retreating ice sheets at the end of the Devensian cold stage some 10,000 years ago. The tills typically comprise silty clays with subordinate sands and gravels (ranging in size up to large boulders). The latest drift deposits are represented by tidal sands, river terrace sands and gravels, glacio-fluvial and glacio-lacustrine sands and gravels, alluvium and windblown sand, and peat.

Overview of Aggregate Resources in Sub-Region

Sub-regional aggregate resources

The resources are summarised in Table 1 below.

Table 1: Summary of Sub-Regional Aggregate Mineral Resources

Mineral Resource	Summary of Mineral Resource	Example uses of material
Glaciofluvial sand and gravel	Sands and gravels are derived from the erosion of local bedrock by the action of ice and waste which is then deposited by glacial melt water. Sand and gravel is defined on the basis of particle size rather than composition, although they are usually rich in silica (quartz, quartzine and flint), but other rock types occur.	Domestic uses, e.g. garden
Carboniferous Millstone Grit (sandstone)	Carboniferous sandstones consist of sand-sized particles with minor pebbles, composed dominantly of quartz, but also with some feldspar, some of which are cemented by carbonaceous material and other with Kaolinitic materials. The sandstones are typically buff coloured although locally grey and vary from fine to course grained.	Bulk fill material
Triassic (Sherwood) Sandstone	The Sherwood Sandstone Group, formerly known as the Bunter Sandstone, predominantly comprises sandstone and pebbly sandstone with lesser amounts of conglomerate and minor amounts of mudstone and siltstone. It was deposited between 230 and 260 million years ago in the late Permian and Triassic periods.	Bulk fill material

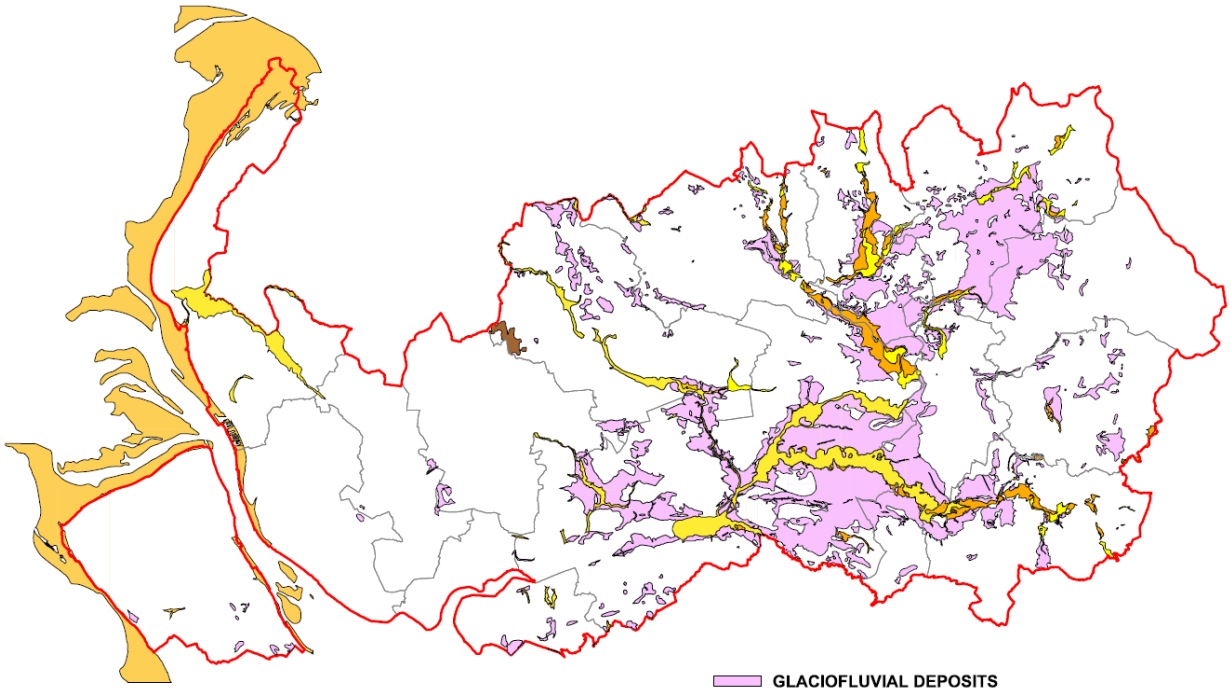
Sand and gravel resources and current extraction

2.5. Resources of sand and gravel primarily occur within superficial or ‘drift’ deposits of glacial and post glacial origin. These sands and gravels are derived from the erosion of local bedrock in a variety of environments, including glaciofluvial rivers formed from melting ice and also river

terraces formed after the main ice had retreated from the area. **Map 2** shows the distribution of the sand and gravel resource across the sub-region.

2.6. There is a limited amount of sand and gravel extraction in the sub-region. Sand and gravel has been extracted in the past in Warrington although there are no working quarries at present. Activity in Merseyside is mainly limited to the landing of marine-dredged material at coastal ports such as the Port of Liverpool and Bromborough. Following consultation on the new Local Plan for Sefton, a new safeguarding area is proposed for the alluvial sand and gravel of the Alt floodplain, though this potential resource has not been of recent commercial interest. In Greater Manchester, glacio-fluvial sand and gravel is currently worked at Astley Moss, Salford. **Map 3** shows permitted sand and gravel quarries (active and inactive) in 2015. Morleys Quarry in Wigan produces sand but this is worked from soft sandstone (Triassic sandstones of the Sherwood Sandstone Group) rather than from sand and gravel deposits.

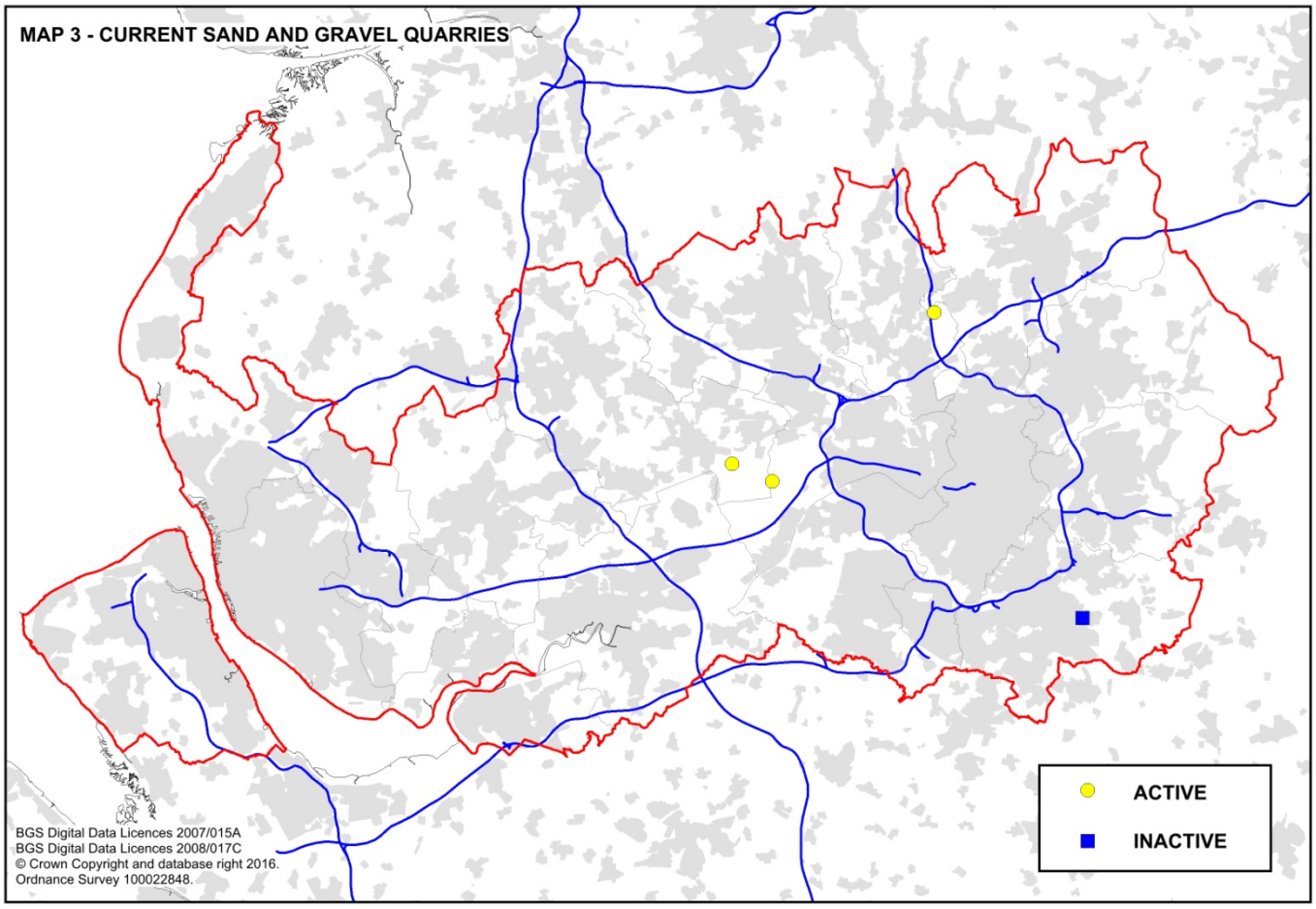
MAP 2 - SAND AND GRAVEL RESOURCE



Crushed rock resources and current extraction

2.7. Crushed rock resources are associated with Carboniferous and Permo-triassic rocks of the area (see Map 4).

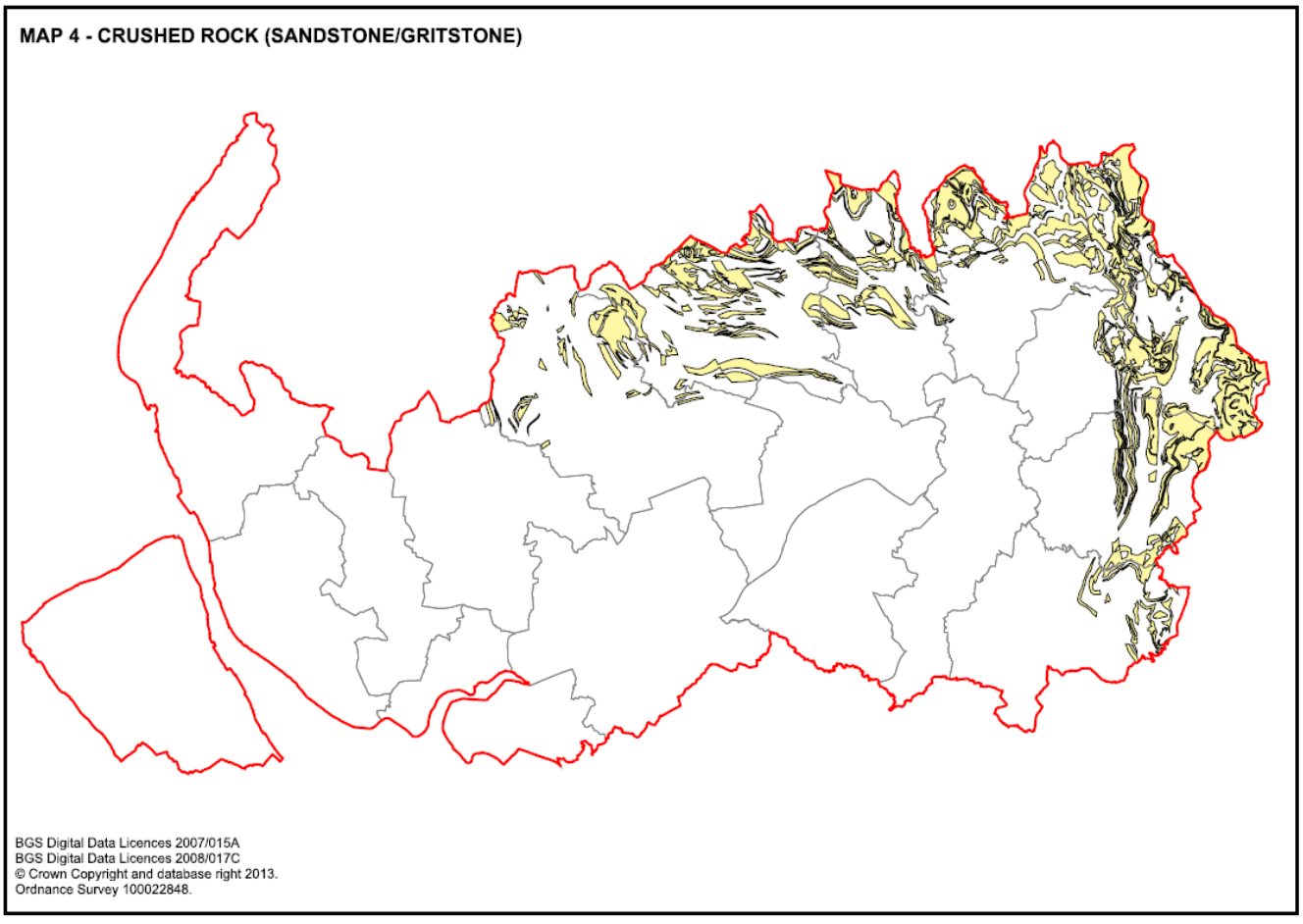
2.8. Extraction of crushed rock aggregate in Greater Manchester is confined to a broad strip running north-south along the eastern margin and east-west along the northern margin. There are six crushed rock aggregate quarries in Greater Manchester which are concentrated in the north and east of the sub-region. One quarry became inactive in 2014 and was only active for aggregate recycling. Four of the remaining six quarries are currently active for the production of aggregates; the other two are inactive and did not produce any aggregate during 2015.



2.9. The only aggregate producing quarry in Warrington is operated by Gaskell Brothers Ltd for the extraction of sandstone at Southworth Quarry in Croft Parish. The site produces crushed rock aggregate primarily for bulk fill purposes. Planning permission for this operation is valid

until 2025. The site also contains a significant aggregate recycling facility and the quarry void is being backfilled with inert wastes.

2.10. There is one quarry in Merseyside with an active planning consent for production of crushed rock aggregate; Bold Heath in St Helens. This is now active after being inactive for the previous several years because of economic conditions, but has now begun to operate again. It produces low grade crushed sandstone for use as construction fill and should continue to contribute to apportionments for some time into the future. **Map 5** shows crushed rock extraction in the sub-region. British Geological Survey (BGS) explain that isolated mineral workings may occur in areas that are shown as having no mineral resource. This explains why there are crushed rock quarries identified in **Map 5** which do not correspond with the sandstone/gritstone resource identified in **Map 4.**[2].

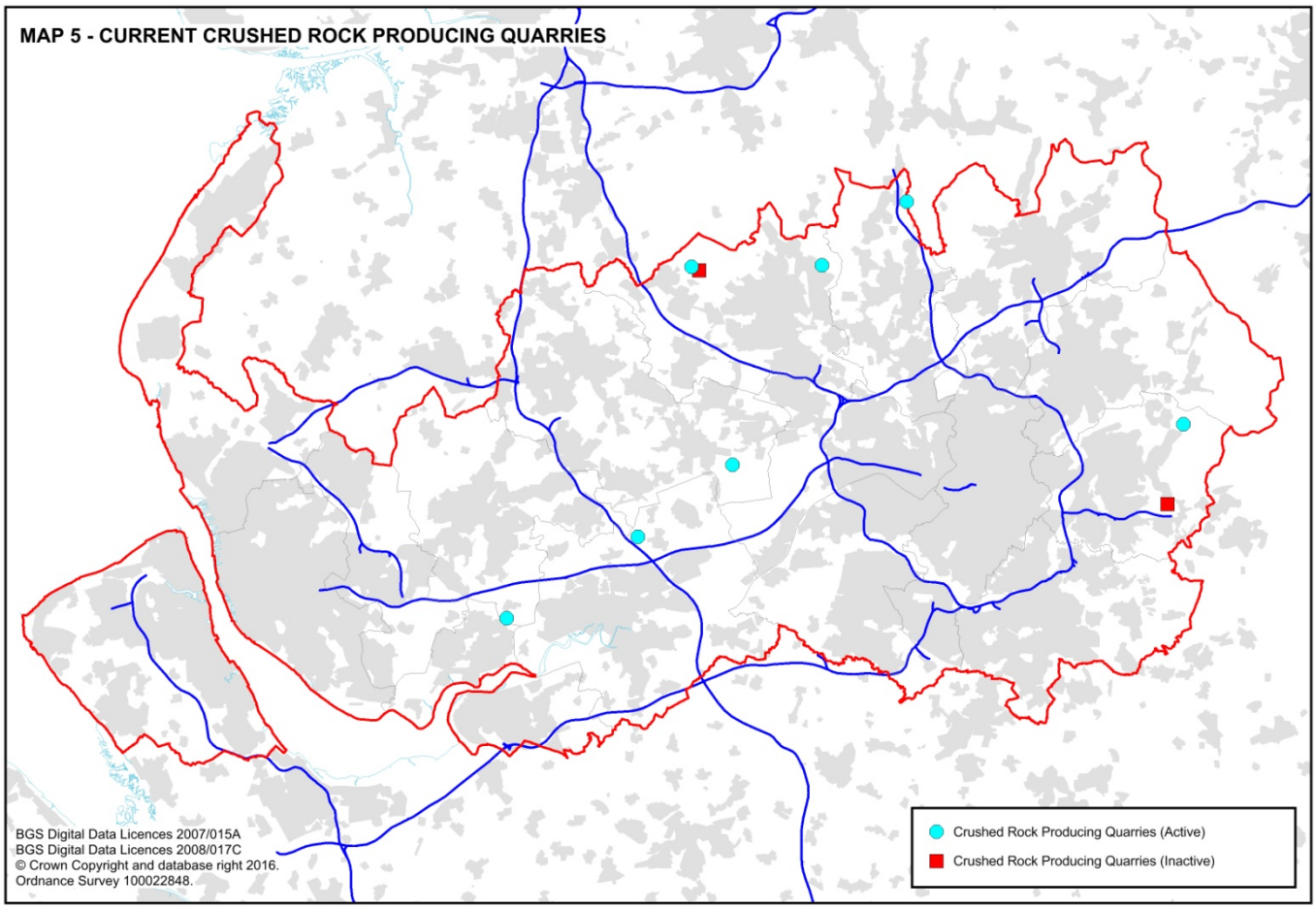


2.11. A list of permitted aggregate quarries in the sub-region is summarised in Table 2.

[2] Source: Mineral Resource Information in Support of National, Regional and Local Planning (Merseyside) BGS 2006

Table 2: Permitted Aggregate Quarries in the Sub-Region

Site name	Operator	Grid Ref	Mineral	Status	MPA
Astley Moss	Breedon Aggregates	SJ 371 500	Sand and gravel	Active	Salford City Council
Bold Heath Quarry	D Morgan Plc	SJ 530 885	Sandstone	Active	St Helens Council
Buckton Vale Quarry	W.Maher & Sons Ltd	SD992 016	Sandstone	Active	Tameside Council
Fletcher Bank Quarry	Marshalls Mono Ltd	SD 804 170	Sandstone	Active	Bury Council
Harrop Edge Quarry	Chartrange (Quarry Products)	SJ 982 959	Sandstone	Inactive	Tameside Council
Harwood Quarry	Booth Ventures	SD 747 124	Sandstone	Active	Bolton Council
Montcliffe Quarry	Armstrongs	SD656 124	Sandstone	Active	Bolton Council
Morley's Hall Quarry	Casey	SJ 685 990	Sand and gravel	Active	Wigan Council
Offerton Quarry	Offerton sand and gravel	SJ 928 893	Sand and gravel	Inactive	Stockport Council
Pilkington Quarry	Armstrongs	SD 622 121	Sandstone	Inactive	Bolton Council
Southworth Quarry	Gaskell Bros	SJ 619 940	Sandstone	Active	Warrington

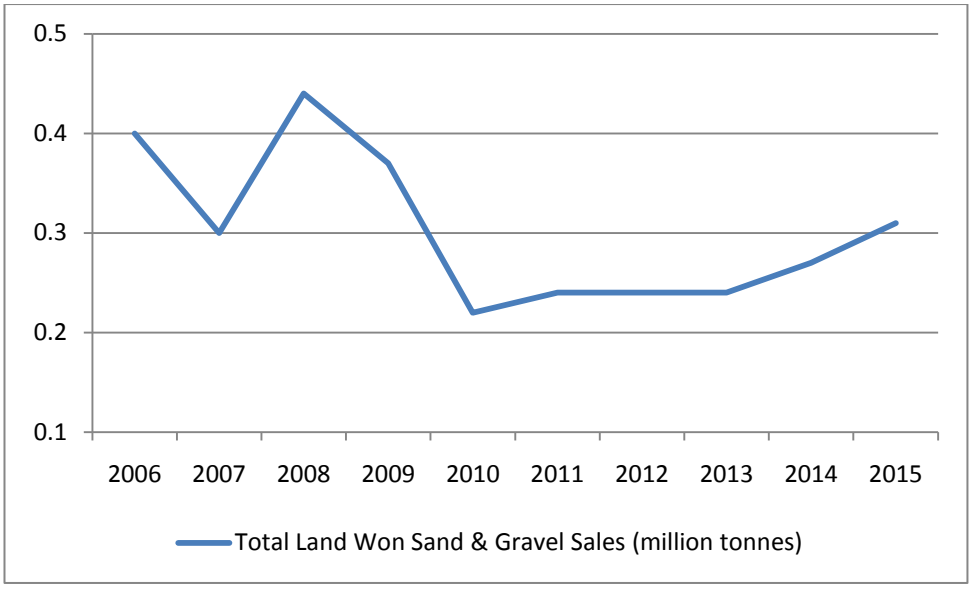


3. Aggregate Sales

Land-won Sand and Gravel Sales

3.1. Sales of land-won sand and gravel originating in the sub-region from 2006 to 2015 are shown in Table 3. There has been a fall in sales over the past 10 years, from 0.44 million tonnes in 2008 to a low of 0.22 million tonnes in 2010. The total sales for the three years to 2013 remained stable at 0.24 million tonnes before rising slightly to 0.26 in 2014 and then to 0.31 in 2015.

Table 3: Land won sand and gravel sales in the sub region between 2006 – 2015 (million tonnes)



3.2. The sales for the most recent 10 year period are set out in Table 4.

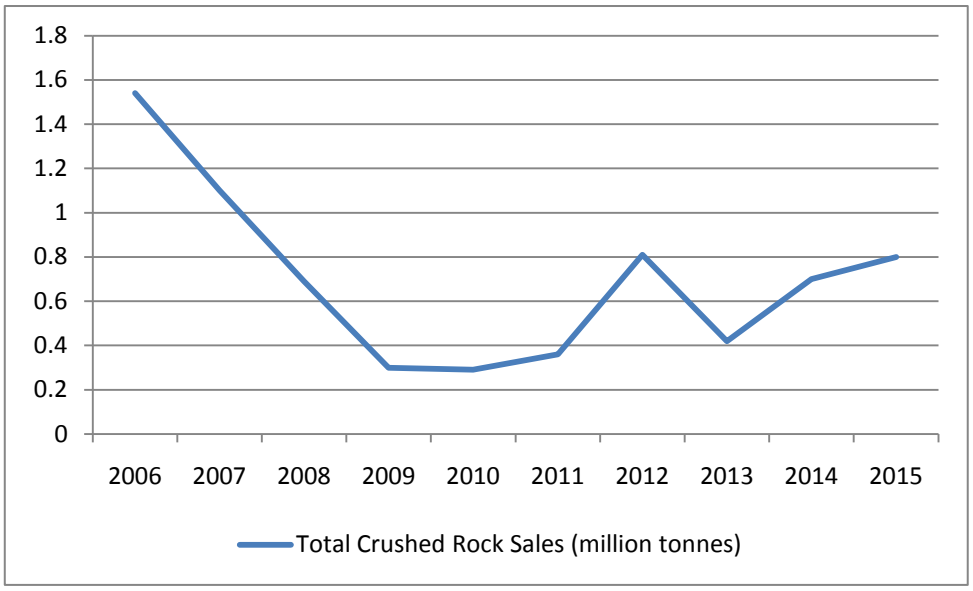
Table 4: Land won sand and gravel sales in the sub region between 2006 – 2015 (million tonnes)

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Sales	0.4	0.3	0.44	0.37	0.22	0.24	0.24	0.24	0.26	0.31

Crushed rock sales

3.3. Sales of crushed rock originating in the sub-region from 2006 to 2015 are shown in Table 5. There has been a decline in crushed rock sales by 72% since 2004, from 1.54 million tonnes in 2006 to 0.42 million tonnes in 2013. There was a low of 0.36 million tonnes in 2011. There was an upturn in sales in 2012 to 0.81 million tonnes, this dropped temporarily to 0.42 million tonnes in 2013 before gradually rising to 0.7 in 2014 and then back to 2012 levels of 0.8 in 2015.

Table 5: Crushed rock sales in the sub region between 2006 - 2015 (million tonnes)



3.4. The sales for the most recent 10 year period are set out in Table 6.

Table 6: Crushed rock sales in the sub region between 2006 – 2015 (million tonnes)

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Sales	1.54	1.1	0.69	0.30	0.29	0.36	0.81	0.42	0.7	0.8

4. Secondary and Recycled Aggregates

4.1. Recycled Aggregate, which include inert materials such as concrete, stone, brick and other similar materials, are reprocessed materials previously used for construction purposes and which are often taken from the Construction, Demolition and Excavation (CD&E) waste stream. Secondary aggregates are usually by-products of industrial processes and can include materials such as clay waste, ash and slag.

4.2. The use of secondary and recycled materials not only reduces the requirement for new production of primary aggregate, but also reduces the need for disposal to landfill of CD&E waste materials. The National Planning Policy Framework recognises this and strongly promotes the use of secondary and recycled materials as an alternative to primary aggregate.

4.3. Data on secondary and recycled aggregate production and use is variable and incomplete. This is because, while some sites operate under license and can be monitored, much

recycling and re-use occurs on individual construction sites, is temporary in nature and does not produce data. A regional study of arisings[3] was undertaken in 2007 and provided an estimated figure of 10,792,823 tonnes CD&E waste arising in the North West in 2006, but there is currently no reliable means of producing a more up-to-date figure specific to the sub-region. However, the Mineral Products Association has published data on the likely contribution that secondary and recycled materials make to the aggregates market, reporting that these materials made up 28% of the market in 2015.

4.4. The use of secondary and recycled aggregate materials is acknowledged to be of some importance to the sub-region, as it is heavily urban in nature and therefore is likely to have production levels significant enough to offset considerably against the apportionment figures. Seeking a means to provide a reliable estimate for secondary and recycled aggregate production will therefore be taken forward as a priority action for future LAAs.

4.5. The locations of CD&E waste management facilities are identified in Map 6. Locations are based on Waste Interrogator 2015 data[4] (Inert waste transfer and treatment facilities). Data on this waste stream is notoriously challenging and local authority licensed sites may not be identified on Map 6 due to limitations with the data. In addition, the quality of the spatial information on Map 6 is varied as site co-ordinates in the EA interrogator do not necessarily match the site address.

4.6. For the reasons outlined above, CD&E and its use for aggregate purposes has been identified by AWP as an area requiring further work. For the first time in this sub-region Merseyside surveyed its licensed CD&E sites in 2014 as part of the annual aggregate sales survey. The exercise yielded little usable data but did allow the list of potential aggregate-producing sites to be refined, and lessons learned from that trial will be fed in to future efforts to quantify production and sales.

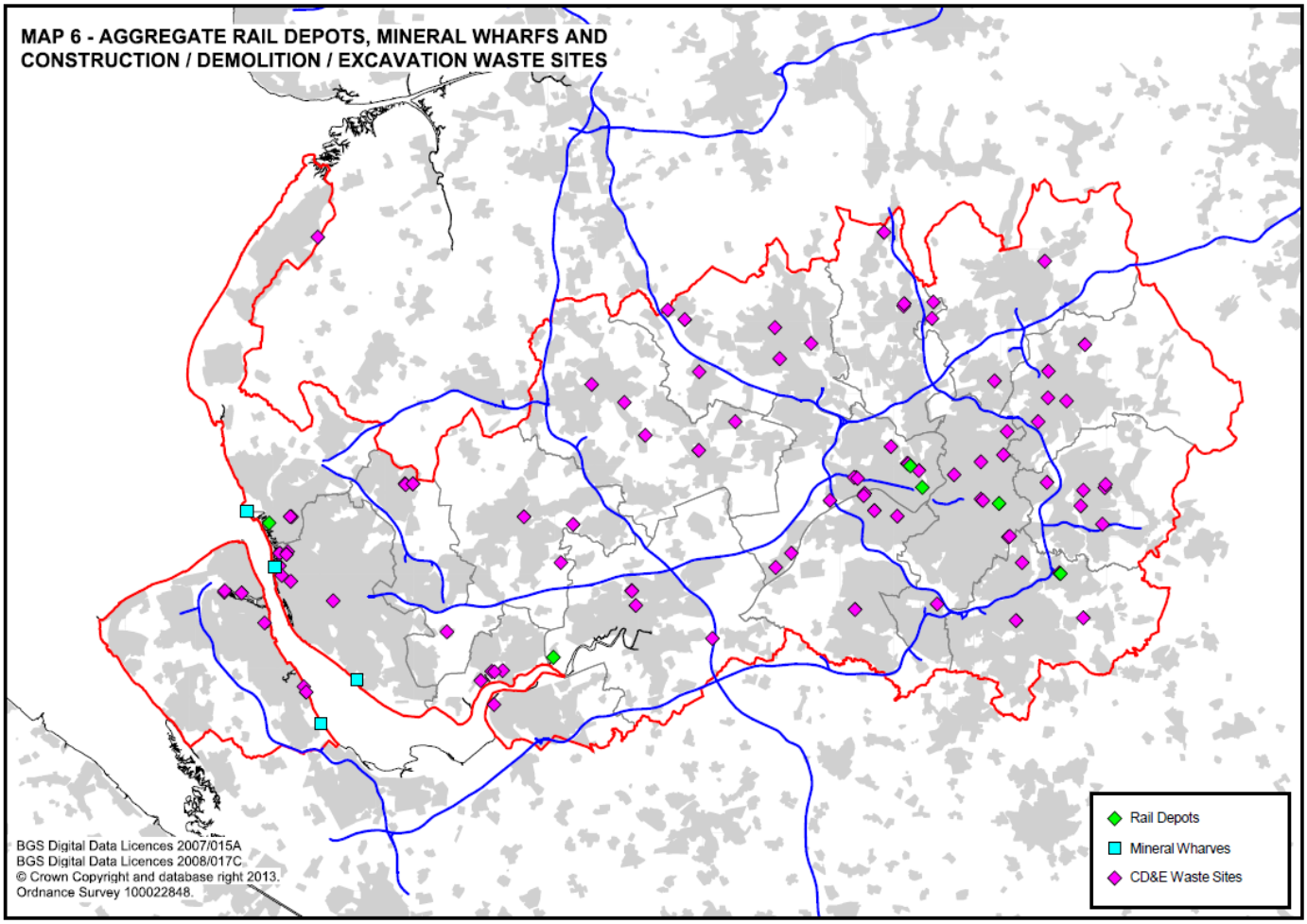
5. Marine Won Aggregates and Wharves

5.1. The apportionment sub-region contains significant marine infrastructure, most notably in the Port of Liverpool, but also other dock facilities at Garston, Bromborough and Eastham and a range of smaller wharf facilities along the Manchester Ship Canal to its terminus in Salford.

[3] Study to fill the evidence gaps for construction, demolition and excavation waste streams in the North West region of England - Smiths Gore, July 2007

[4] The release of the 2016 Interrogator (with 2015 figures) was delayed and so was not available at the time of writing this report.

There are significant primary landings of aggregate materials in the Port of Liverpool and at Garston. Most onward trans-shipment is by road and rail, but from time to time some onward trans-shipment by barge may take place. The Port of Liverpool also handles landings of significant quantities of crushed rock aggregate shipped from the Glensanda quarry in the West of Scotland. Map 6 identifies wharfs in the sub-region where marine-won aggregates are landed.



5.2. The marine aggregates landed in the sub-region come mainly from the licensed sand and gravel extraction zones in the Irish Sea (86.65km^2 of licensed area in 2015, which represents an increase on the previous year). Crown Estates (published in *The Area Involved - 18th Annual Report,* The Crown Estate and British Marine Aggregate Producers Association, 2016) statistics for 2015 report a figure for permitted removal from North West waters of 1.30mt per annum.

5.3. The comparison given by Crown Estates in *Marine Aggregate Capability and Portfolio 2014* of the 10-year peak extraction (740,000 tonnes) with the 10-year average (510,000 tonnes) and

the 3-year average (330,000 tonnes) is indicative both of significant falls in demand for marine aggregate in recent years, but also of significant unused capacity potentially available to the market should demand increase significantly in the future. However, extraction did rise year-on-year from approximately 300,000 tonnes in 2011 to approximately 600,000 tonnes in 2012, the most since 2009. In 2014 520,000 tonnes of marine sand and gravel was extracted, though only 250,000 tonnes went to the aggregates market (the rest being intended for beach nourishment), and in 2015 these figures jumped dramatically to 2,047,000 tonnes, with 260,000 tonnes delivered to the primary aggregates market and 1,786,250 tonnes of material being delivered for reclamation fill purposes.

5.4. Over 97% of the primary aggregate was delivered to North West wharves, with Liverpool by far the most significant destination. Crown Estates anticipates 3% annual growth in demand nationally in the period up to 2030 and the North West offshore licenses seem well placed to accommodate this level of growth.

5.5. In 2015, 210,000 tonnes of marine aggregate was landed at Liverpool wharves, together with 542,000 tonnes of crushed rock aggregate (up from 400,000 in 2014) shipped from land-won sources in Scotland. Both Crown Estates and the wharf operators report that the material landed through wharves in the sub-region has an end-use mainly within the North West.

6. Movement of Aggregates – imports/exports

6.1. Information on imports and exports of aggregates into and out of the sub-region is taken from the 2014 Aggregates Minerals Survey (AMS) undertaken jointly between the Department for Communities and Local Government (DCLG) and the British Geological Survey (BGS). This is the most up-to-date data available on flows of aggregate materials. The data tables express the movement of minerals in percentage ranges, so there are limitations in the precision of the data.

6.2. The AMS reports that the North West as a whole consumed 15,363 thousand tonnes of primary aggregate in 2014, 45% of which originated within the North West and 55% of which was imported into the region. No separate data for the LAA sub-region has been published. Table 7: North West Net Imports/Exports (2014) shows net imports and exports into/out of the region in 2014. In summary, the North West region is a net exporter of sand and gravel and a net importer of crushed rock.

Table 7: North West Net Imports/Exports (2014)

	Import (000 tonnes)	Export (000 tonnes)	Balance (000 tonnes)
Sand & Gravel (land won and marine)	240	723	-483 (net export)
Crushed Rock	7,740	313	+ 7,427 (net import)

6.3. In order of volume, the North West imported sand and gravel from the following regions in 2014:

- North Wales (140,000)
- West Midlands (70,000)
- Yorkshire and Humber (12,000)
- South East (12,000)
- East Midlands (3,000)
- East of England (1,000)

6.4. In order of volume, the North West imported crushed rock from the following regions in 2014:

- East Midlands (3,831,000)
- North Wales (2,131,000)
- Yorkshire & Humber (836,000)
- Outside England & Wales (400,000)
- West Midlands (357,000)
- South Wales (142,000)
- North East (44,000)

6.5. The previous 2009 survey did not specify where the sub-region imports materials from, whereas the latest 2014 survey has improved on this so it is now possible to indicate where material comes into the sub-region from. Sand and Gravel is mainly imported from other parts of the North West, with Cheshire West and Chester being the largest source (20-30% of consumption), with Cheshire East, Lancashire and Cumbria also significant sources (1-10%). Only Staffordshire reported significant shipments to the sub-region from outside of the North West (1-10%), while very small contributions were also recorded from Lincolnshire and Nottinghamshire (<1%). The LAA area therefore imports significant quantities of sand and gravel from land won sources.

6.6. The reported position with Crushed Rock is more complex. Very significant imports to the sub-region are reported from Derbyshire and the Peak District National Park (20-30%), while Flintshire is also a significant supplier (10-20%), while quantities also come from Cumbria, the Yorkshire Dales and Shropshire (1-10%), with small shipments also recorded from a further 9 mineral planning authority areas. This reflects the need for crushed rock in the sub-region and the lack of local resources to supply it. The sub-region also borders both North Wales and the East Midlands regions, both of which produce crushed rock in relatively convenient locations to facilitate supply into the sub-region.

6.7. Table 8 shows sub-regional imports and consumption of primary aggregates in 2014. It shows that the sub-region imported 92% of the crushed rock consumed, either from elsewhere in the North West or beyond. This can be explained by the fact that the quality of crushed rock extracted in the sub-region is of a lower quality than that required for many construction activities and is understood to be mainly used as bulk fill. Therefore, the sub-region must import the higher quality crushed rock aggregate for use in construction projects as it is not available locally and it is likely that this will continue.

Table 8: Sub-regional imports and consumption of primary aggregates in 2014[5]

	Import (000 tonnes)	Consumption (000 tonnes)	Net imports as a % of consumption
Sand & Gravel (including Marine)	214	280	76%
Crushed Rock	3,233	3,465	93%
Total Aggregate	3,447	3,744	92%

6.8. The sub-region imported 76% of sand and gravel consumed in 2009, either from elsewhere in the North West or from beyond the North West, this figure remains the same for 2014. The only sand and gravel quarries in the sub-region are currently found in Greater Manchester. The sub-region imported 92% of crushed rock consumed in 2009, this has risen to 93% for 2014. The data suggests that the sub-region continues to rely on imports to supply the majority of its requirements for sand and gravel and crushed rock.

6.9. A review of the 2014 Derbyshire and Peak District National Park (PDNP) LAA reveals that Derbyshire exported 23% (1,690,722 tonnes) and PDNP export 33% (572,440 tonnes) of the

[5] Table 4 includes imports from other authorities within the North West as well as any imports from outside the North West. It is therefore not directly comparable with the information in Table 7.

total crushed rock produced in each authority in 2009. The LAA explains that the landbank is large enough to continue to supply other areas during their Plan period to 2031. However, the PDNP has a policy in its Core Strategy which does not allow for further new quarries or extensions to existing quarries, in order to reduce progressively the amount and proportion of aggregate grade crushed rock that is quarried from within the Park in order to protect the nationally protected landscape.

6.10. In 2014, 856,157 tonnes of stone were sold from the Yorkshire Dales National Park to the North West region which represents 28% of the National Park's total sales for that year. A railhead was commissioned by Tarmac at Arcow Quarry in Ribblesdale in January 2016. At present this is being used for trains taking Dry Rigg stone (also Tarmac) to the Bredbury (Stockport) and Agecroft (Salford) depots. It will also be used for Arcow stone to the same depots if planning permission is granted for a proposed extension to Arcow quarry. The LAA notes that national guidance for non-energy minerals should be provided for from outside National Parks as far as is practical. The LAA explains that whilst there are currently substantial reserves in the National Parks, the availability of new reserves from these locations will be restricted by national policy restrictions. NPPF seeks to reduce reliance on the National Parks as a source of crushed rock aggregate, and this may increase pressure on supplies of imports to the sub-region over time.

6.11. The 2014 survey provides some details of exports from the sub-region. However it is clear that these are limited and local given the quality of material found and the constraints of the urban area. Given this, communication and co-operation with those authorities that import primary aggregates into the sub-region will be important.

6.12. The majority of aggregates are transported into the sub-region by road. However, there are a number of aggregate rail depots in the sub-region and these are shown on Map 6.

6.13. The AWP has identified that the LAA could be strengthened by including additional information on onward movement and final destination of aggregate from rail depots and wharves. Data is not readily available to address this in this LAA and therefore it will be addressed in the next LAA. Indications are that the material imported through Merseyside Wharves is used entirely within the North West.

7. Total Aggregate Supply – permitted reserves

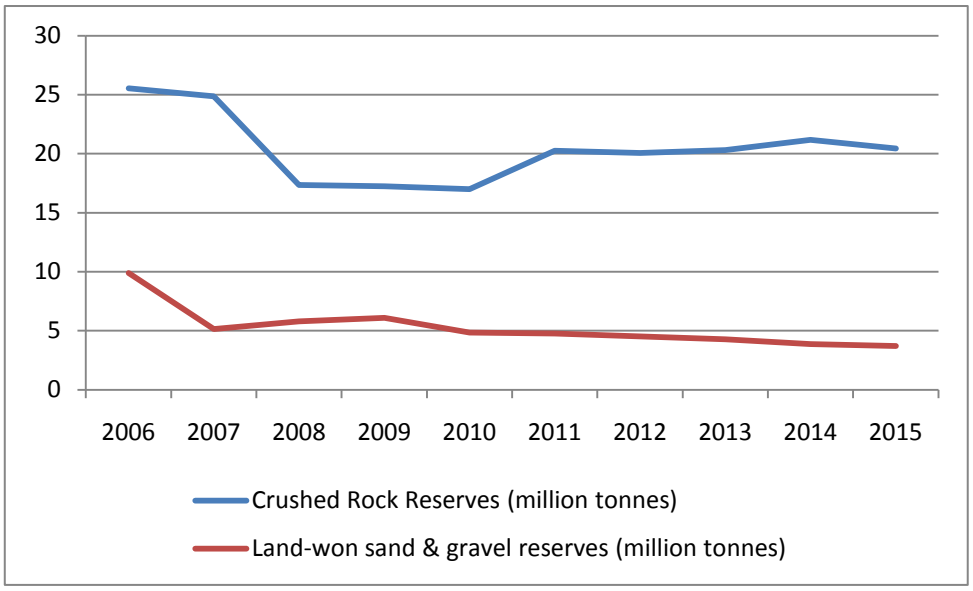
7.1. Table 9 below sets out aggregate reserves in the sub-region over a ten year period to 2015.

Table 9: Aggregate reserves in the sub-region

Monitoring period	AM06	AM07	AM08	AM09	AM10	AM11	AM12	AM13	AM14	AM15
Crushed Rock (sandstone) reserves (million tonnes)	25.54	24.86	17.36	17.23	17.01	20.26	20.06	20.3	21.18	20.43
Land-won sand and gravel reserves (million tonnes)	9.89	5.15	5.8	6.1	4.85	4.76	4.52	4.27	3.86	3.70

7.2. Table 10 illustrates graphically how the reserves have fluctuated over that ten year period. There has been a general decline in sand and gravel reserves since 2006. This is in line with reported sales and no new reserves being permitted. The reduction in sand and gravel sales and reserves from 2009 – 2012 is due to the closure of one site for the purposes of sand and gravel extraction and subsequent use for waste disposal in Greater Manchester. Reserves of crushed rock are lower than the high reported in AM2006 but increased between 2009 and 2014, before a small decline in 2015, in line with sales. The increase in reserves could be due to a new permission at Montcliffe Quarry, Greater Manchester, for an additional 1.4 million tonnes of mineral, mainly aggregate with a small amount of dimension stone was granted in 2014.

Table 10: Graph showing aggregate reserves in the sub-region



8. Assessment of Future Supply

8.1. For over 35 years, geographical imbalances in the occurrence of suitable natural aggregate resources and the areas where they are needed have been met through the Managed Aggregate Supply System (MASS). The underpinning concept behind MASS is that Mineral Planning Authorities which have adequate reserves of aggregates make an appropriate contribution to national as well as local supply. New Government guidance on the MASS[6], published in October 2012, indicates the Government considers there is still a role for forecasts of aggregate provision in England and that it will continue to publish National and Sub-national guidelines and continue to make assumptions on the likely contribution of demand for alternatives, imports and marine dredged sand and gravel.

Current Aggregate Apportionment (2005 – 2020)

8.2. Prior to the publication of the National Planning Policy Framework (NPPF) in March 2012, national aggregate policy was set out by the Government in MPS1, which required Mineral Planning Authorities (MPAs) to make provision for the sub-regional apportionment of the National and Regional Guidelines for Aggregate Provision 2005-2020[7], which was most recently updated in June 2009. The key regional guideline figures are reproduced in Table 11 along with the national figures for comparison.

[6] Guidance on the Managed Aggregate Supply System (DCLG, Oct 2012)
[7] National and regional guidelines for aggregates provision in England 2005-2020 (DCLG, Jun 2009)

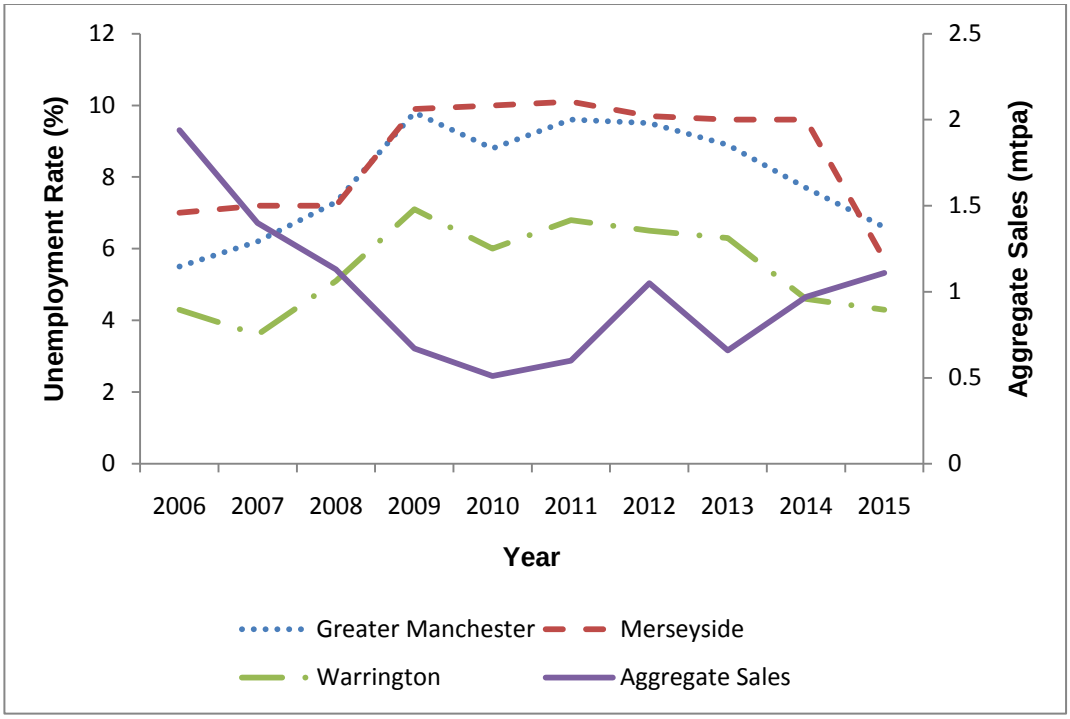
Table 11: Comparison of National and Regional Apportionment Guidelines for England (2009)

Region	Land-won provision		Assumptions		
	Land-won Sand & Gravel (mT)	Land-won Crushed Rock (mT)	Marine Sand & Gravel (mT)	Alternative Materials (mT)	Net Imports to England (mT)
North West	52	154	15	117	55
England	1028	1492	259	993	136

8.3. In order to understand the behaviour of the aggregates market across the apportionment area, this LAA uses historic trends in a small number of key economic indicators to illustrate how the recorded trends in aggregate sales reflect wider economic conditions. Unemployment, employment in the construction sector, housing completions and GVA forecasts have all been used for the purposes.

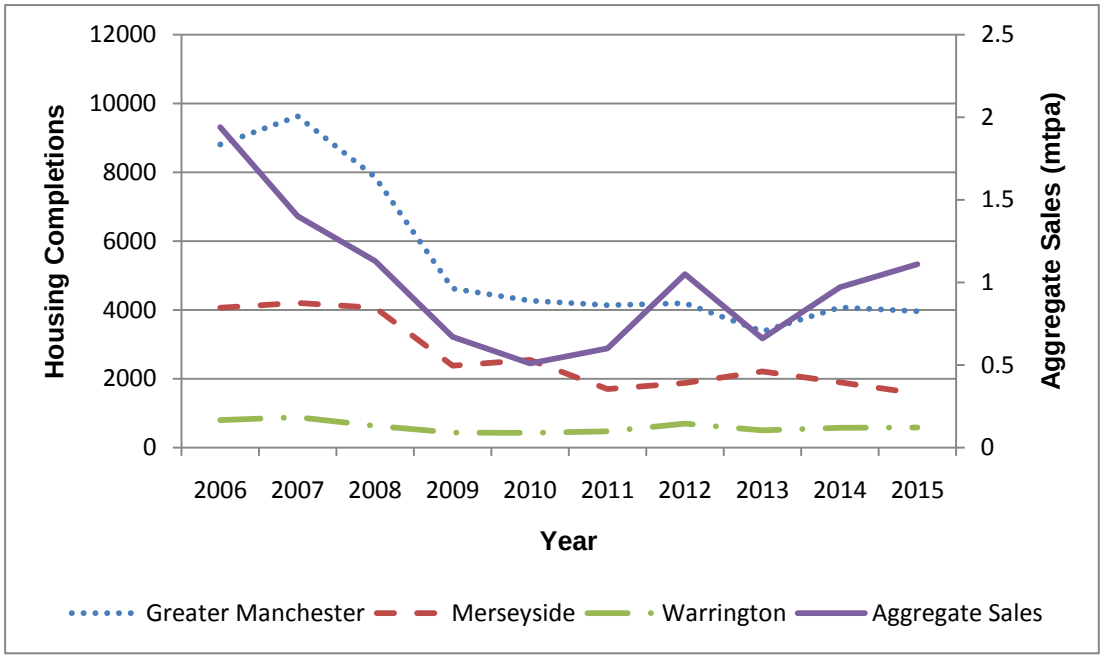
8.4. Table 12 shows unemployment figures against the recorded aggregate sales over the ten year monitoring period. The chart clearly indicates the decline in aggregate sales and corresponding rise in unemployment rates over the period 2007-2010 that corresponds to the universally recognised global economic crisis, with improvements beginning to show in the most recent years of the sequence.

Table 12: Unemployment[8] and Aggregate Sales



8.5. Table 13 shows a similar steep fall in housing completions together with a recent gradual recovery. As a key indicator of construction sector activity, it is not surprising that the recorded trend in aggregate sales broadly reflects the trend in the housing completion statistics.

Table 13: Housing Completions[9] and Aggregate Sales



[8] Source: Department of Work and Pensions
[9] Source: Department for Communities and Local Government

8.6. The 2014 Greater Manchester Forecasting Model produced by Oxford Economics (2014 GMFM) shows that, in the period 2008 - 2014, the construction industry in Greater Manchester declined by 20,500 jobs. It predicts that, over the period 2014 – 2028, this decline will be halted and the construction industry in Greater Manchester will grow by 14,700 jobs. Over the next decade it is predicted that GVA growth will average 2.8% per year in Greater Manchester.

8.7. Figures from the same source produced in 2015 for the Liverpool City Region indicate a similar picture. LCR employment in the construction sector fell by 10% in the period 2008-14 but forecasts show the figure recovering to 5% above 2008 levels by 2028.Over the ten years 2015-2024 total GVA growth in the LCR of 22% is anticipated, while the forecast for the construction sector over the same period is a similar 24%. This is indicative of an expected return to more normal economic conditions with average annual growth a little above 2%.

8.8. The regional guidelines were broken down, as far as possible, to mineral planning authority areas (the 'sub-regional apportionment'). For reasons of commercial confidentiality, Greater Manchester, Merseyside, Halton and Warrington were grouped together for the purposes of the sub-regional apportionment. The apportionment prior to the publication of the NPPF was 0.43 million tonnes per annum of land-won sand and gravel and 1.32 million tonnes per annum of crushed rock.

8.9. The sub-region has not met the annual apportionment 2005 – 2020 for crushed rock since 2007. The main reason for not meeting the crushed rock apportionment, despite there being sufficient permitted reserves, is likely to be the economic downturn and reduction is production site numbers.

8.10. However, an additional factor is possibly that the sub-region produces crushed rock aggregate at the lower end of the quality spectrum, which is in competition with recycled aggregate. Unfortunately, the importance of this trend is difficult to demonstrate given the lack of reliable data on the production and use of recycled materials. In addition, the sub-region has not met the land-won sand and gravel annual apportionment 2005 – 2020 since 2008. This coincides with the downturn in the economy and the closure of one sand and gravel site in Greater Manchester.

8.11. Table 14 compares total crushed rock sales against the annual crushed rock apportionment 2005 – 2020. Table 15 compares total sand and gravel sales against the annual sand and gravel apportionment 2005 – 2020.

Table 14: Comparison of total crushed rock sales against the annual apportionment 2005 – 2020

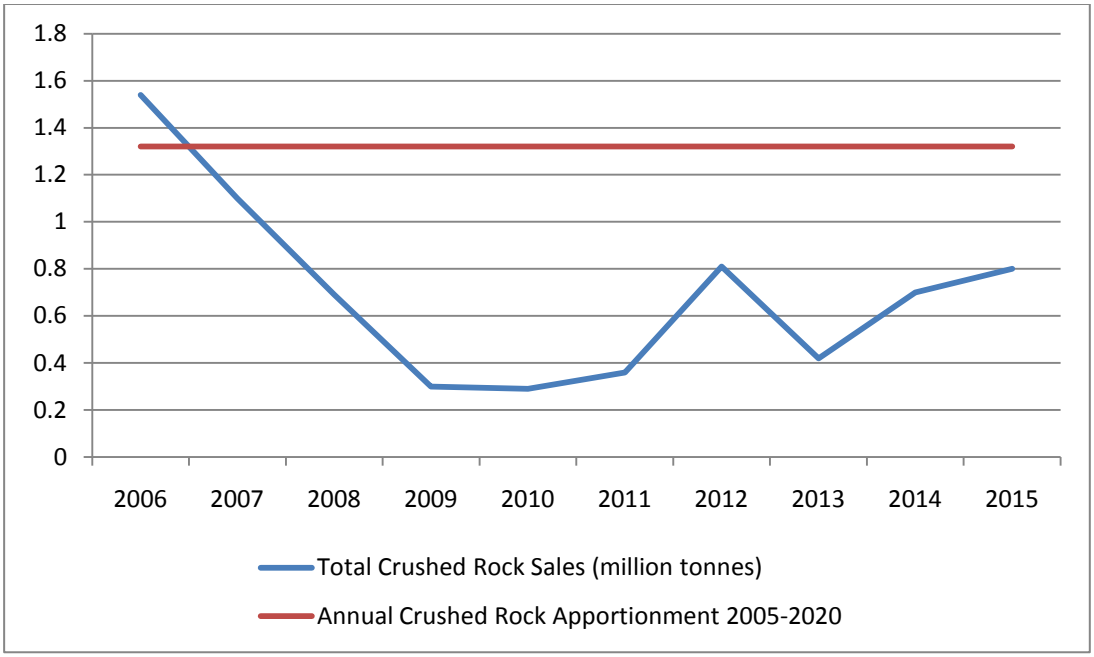
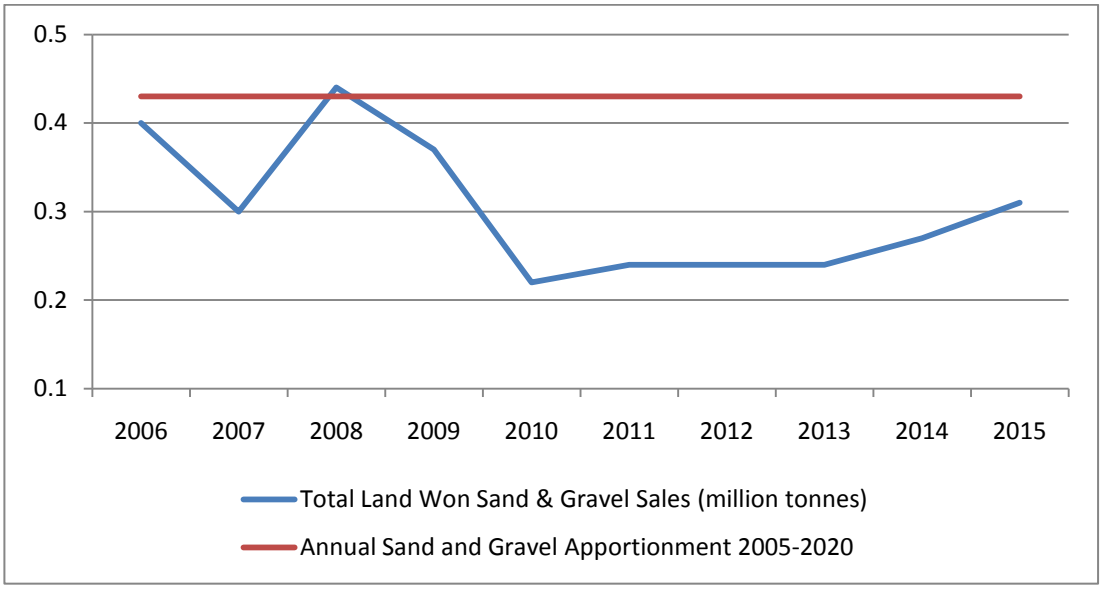


Table 15: Comparison of total sand and gravel sales against the annual apportionment 2005 – 2020



8.12. Table 16 shows the landbank for crushed rock and sand and gravel in the sub-region based on the sub-regional apportionment from National and Regional Guidelines for Aggregate Provision 2005-2020[10].

8.13. The landbank for crushed rock aggregate increased marginally from 15.4 years in 2013 to 16.04 years as at 31st December 2014 (new permission at Montcliffe Quarry, Greater Manchester),

[10] National and regional guidelines for aggregates provision in England 2005-2020 (DCLG, Jun 2009)

before dropping back again in 2015 to 15.5 years. The landbank for land-won sand and gravel has gradually decreased since 2013 to 8.6 years.

8.14. Table 16 shows that under the existing apportionment, there is a sub-regional landbank of at least 10 years for crushed rock and at least 7 years for sand and gravel as required by NPPF (para. 145).

Table 16: Landbank for crushed rock and sand and gravel in the sub-region based on the sub-regional apportionment from National and Regional Guidelines for Aggregate Provision 2005-2020[11]

	Landbank as at 31.12.2014	Permitted reserves as at 31.12.2015	Annual apportionment requirement 2005 – 2020	Landbank as at 31.12.2015
Crushed Rock	16.04 years	20.43 mt	1.32 mt	15.5 years
Sand and gravel	8.97 years	3.70 mt	0.43 mt	8.6 years

9. Future Aggregate Supply and Demand

9.1. The Government recognises the need to maintain the main principles of the MASS. However, following the publication of the NPPF, the Government considers that a steady and adequate supply of aggregate minerals should be delivered by decentralising more power to Mineral Planning Authorities to determine the appropriate level of aggregate extraction, in keeping with its principles for a more localist approach to planning more generally[12].

9.2. Annual surveys of aggregate sales and reserves have historically been undertaken by the North West AWP and provide a basis for establishing future supply and demand. There has been a decline in sales of both land won sand and gravel and crushed rock in the sub-region. This mirrors a general downward trend in sales of primary land-won aggregate nationally and is due to:

- Decline in the construction industry;
- Development of more efficient construction techniques requiring less aggregate;
- Increased use of marine won aggregate and secondary and recycled aggregates.

9.3. Current primary mineral extraction (sand and gravel and crushed rock production) in the sub-region is limited with all but two existing quarries located in Greater Manchester. No sites

[11] National and regional guidelines for aggregates provision in England 2005-2020 (DCLG, Jun 2009)
[12] Guidance on the Managed Aggregate Supply System (DCLG, Oct 2012)

were submitted by Industry for allocation for future extraction within the Greater Manchester Minerals Plan (adopted in 2013) although Areas of Search have been identified in the Plan. Reasons for this could include the extent of the urban area and the quality of materials found in the sub-region being such that it competes with secondary and recycled materials.

9.4. Given the above, it is likely that imports of primary aggregate material into the sub-region will continue to be important. It is also likely that secondary and recycled aggregates will continue to compete with primary aggregate extracted in the sub-region.

9.5. Forecasting future aggregate market conditions is difficult, given the depth and duration of the economic downturn. Although growth conditions have returned to the sub-region recently, aggregate sales data do not yet fully reflect this. The pre-recessionary peak for sales was reached in 2006 with 1.94mt of recorded aggregate sales, compared with 0.51mt in 2010 and 1.1mt in 2015. However, ambitious local authority housing delivery targets and the potential effects of local devolution will be a factor in the recovery of demand for aggregate. Crown Estates[13], while recognising that a market recovery for marine aggregate is underway, does not expect a return to 2008 peak levels until the early 2020s. This suggests that recovery to peak levels is certainly possible, but may take some time. There is expected to be sufficient unused capacity within the aggregates market onshore, and particularly off-shore, to service any increase in demand in the short- to-medium term.

[13] Marine Aggregate Capability and Portfolio 2013 (The Crown Estate, 2013)

10. A Local Approach to Apportionment Determination

10.1. The demand for aggregates in the sub-region is likely to remain higher than actual land-won aggregate sales figures. The sub-region contains large urban areas including Liverpool, Manchester and Warrington, which restrict the land available for minerals extraction. The geology means that high specification materials for construction and infrastructure projects are not locally available and must be imported.

10.2. In recent years the emphasis in waste management policy on increased recycling has led to rapid growth in the market for substitute aggregate materials and, in particular, facilities for processing construction and demolition waste to produce them. In some circumstances materials from other industrial processes, such as glass, can also be used for this purpose. Unfortunately robust data on the production, distribution or use of alternative aggregates remains difficult to obtain, a position acknowledged by DEFRA in respect of its obligations to report progress against the target set by the Waste Framework Directive to recover 70% of construction and demolition waste by 2020[14]. In the meantime, indications are that the use of alternative aggregate has increased to represent 28% of the market by 2015 (*The Minerals Products Industry at a Glance- 2016 Edition*, Minerals Products Association) and could be expected to continue to rise in the immediate future, driven by policy, regulation and market factors. Although, it should also be noted that secondary aggregates are constrained by availability, quality and specification.

10.3. A number of significant built infrastructure projects and development projects have been identified that are due to commence or have already commenced. These could require substantial amounts of aggregates and include: Port Salford; Liverpool and Wirral Waters; Mersey Gateway Bridge in Halton; and the Omega employment site in Warrington.

10.4. The current consultation on the GMSF vision and draft strategic options contains information on objectively assessed housing need. This concludes that the objectively assessed housing need for Greater Manchester over the period 2014-2035 is 217,350 net additional dwellings, which is an average of 10,350 net additional dwellings per annum. The consultation explains that this level of growth would appear to be quite high historically.

[14] Directive 2008/98/EC on waste (Waste Framework Directive)

10.5. Forecasting future demand for aggregates based on the average of 10-year sales data may therefore be an appropriate approach for the sub-region to take. Previous apportionments have not been met and this would seem to be a more realistic approach. A ten year period covers the recent economic downturn and the more prosperous period before this and therefore would appear to be realistic in forecasting future demand. The following table (Table 17) sets out the forecast based on the 10-year sales data. It also shows the 3-year rolling average of sales which demonstrates the trend in sales more than the 10 year data.

Table 17: Forecast based on 10-year supply

	Aggregate	
	Sand and Gravel	**Crushed Rock**
10 year average sales (2006 to 2015)	0.30Mt	0.70Mt
3-Year rolling average of sales	0.27Mt	0.63Mt
Total Requirement (2014 to 2029)	**4.65Mt**	**11.1Mt**
Permitted reserves as at 31/12/2015	3.70Mt	20.43Mt
Landbank as at 31/12/2015	**12.3Yrs**	**29.19Yrs**

10.6. The 10-year average figure for sand and gravel is 0.30mt, down 0.13mt on the 2005 – 2020 annual apportionment requirement of 0.43mt.

10.7. The 10-year average figure for crushed rock is 0.70 mt, down 0.62 mt on the 2005 – 2020 annual apportionment requirement of 1.32 mt. This is a 47% reduction and it is important to understand how this will impact on the landbank.

10.8. This meets the requirement set out in NPPF for a land bank of at least 7 years (sand and gravel) and at least10 years (crushed rock).

10.9. The annual apportionment requirement 2005-2020 is 1.32 mt for crushed rock with the crushed rock landbank at 31st December 2015 of 15.5 years. Under 10-year sales, the landbank would increase by almost 14 years.

10.10. The annual apportionment requirement 2005 – 2020 is 0.43 mt for land-won sand and gravel with the landbank being 8.6 years at 31st December 2015. Under the 10-year sales figure, the landbank would increase by almost 4 years.

10.11. Based on these figures, the sub-region will make provision for 11.1 million tonnes of crushed rock aggregate for the 15-year period 2014 – 2029. There were 20.43 million tonnes crushed rock reserves permitted at the end of 2015 so it would appear that there will be no immediate shortfall, although this does not take into account limitations on the planning permission relating to lifespans of quarries or permitted annual extraction. The sub-region will make provision for 4.65 million tonnes of sand and gravel for the 15-year period 2014 – 2029. There were 3.70 million tonnes of permitted sand and gravel reserves at the end of 2015, meaning that the landbank could be reduced to the point where there is a shortfall. There were no new permissions for land won sand and gravel permitted in 2015 and there are just 2 sand and gravel quarries operating in the sub-region. This should be monitored in future Local Aggregate Assessments.

10.12. The 3-year average figures are slightly lower for both sand and gravel and crushed rock sales.

10.13. The 10-year average sales figure is lower than the 2005 – 2020 apportionment and this gap is increasing. If this trend continues a local approach to apportionment in the sub-region based on 10 year average sales may become most appropriate for the sub-region due to the following reasons:

- Reduction in sales of land won aggregates at the local and national level;
- Low quality and limited extent of primary aggregate resources in the sub-region;
- Aggregates found in the sub-region are of local importance;
- Experience in producing the Greater Manchester Minerals Plan revealed a lack of interest from industry in putting forward sites for minerals extraction (a position supported by the recent lack of new planning applications in Merseyside and Warrington);
- Extent of the urban area and other spatial constraints impacting on where material can be extracted from;
- Wide and growing availability of secondary and recycled materials and opportunities for marine aggregate landings.

10.14. These factors suggest that the sub-regional apportionment is less likely to be achieved in the future. The lower ten year average sales figures have been monitored for several years now and appear to provide a better reflection of market conditions. It has therefore been concluded that they provide a better basis for local planning in the sub-region than the apportionment. This will be reviewed through future Local Aggregate Assessments, but the ten year average sales figures will now be used as the basis for planning by the Mineral Planning Authorities of the sub-region.

11. Conclusions on Future Supply Capacity

11.1. The sub-region is theoretically able to meet the requirements for an at least 7-year sand and gravel and an at least 10-year crushed rock landbank. However, this position should be kept under review through future LAA to reflect opportunities for substitution of primary land won aggregate by secondary and recycled aggregates and marine aggregates. It should be noted that 10-year average figures for crushed rock may be skewed by higher sales figures at the beginning of the 10-year period when sales were higher but also when there was a greater number of aggregate producing quarries.

11.2. The aggregate produced in the sub-region is locally important and districts should ensure plans/policies are in place to ensure a continued supply.

11.3. The port facilities of the Mersey Estuary are likely to continue to function as significant landing and transhipment points for aggregate materials coming in to the area. The future of marine aggregate extraction in Liverpool Bay seems secure and remains economically significant, but is increasingly competing with other priorities in the offshore area and areas which may be available for extraction may become increasingly restricted in the future. In this respect the first Marine Spatial Plan for the Irish Sea area, to be prepared by the Marine Management Organisation will have a significant role to play, subject to the capacity constraints of the port.

11.4. Robust data on the use of alternative aggregates has proved very difficult to obtain, particularly at the local level. This is a data gap that will need to be filled in the future particularly if, as an area that is not self-sufficient in land-won aggregates, we wish to understand more fully and address the extent to which a dependence exists on material imported from other areas. This data gap has been recognised by the AWP, which has noted it as a priority for joint action at AWP level to address it.

11.5. A key issue for the sub-region is the importation of aggregates from within the North West and beyond. In order to meet construction needs, it is likely that imports would continue to be required. Therefore, safeguarding of rail depots and wharfs by the MPAs is a requirement of the NPPF.

12. Key Messages, Cross-Boundary Liaison and Future Review

12.1. This LAA has been produced jointly for the 17 unitary local authorities comprising the aggregate apportionment sub-region of Merseyside, Greater Manchester and Warrington**. Its principal**

conclusion is that the authorities of the sub-region should adopt the ten year average sales figure as the basis for local planning. This is because other information, including the 10-year average sales forecast may be more appropriate in the longer-term for the sub-region as it appears more achievable than the sub-regional apportionment. The sub-region has not met apportionment for some time and evidence from industry is that there is limited interest in taking advantage of the aggregate materials that the sub-region provides. There is no indication that this position is likely to change in the immediate future, as no new proposals for quarries are currently known. The situation will be kept under review through future LAAs and the MPAs of the sub-region will respond as the evidence requires.

12.2. Although the report has highlighted a number of areas where data is weak, absent or not readily applicable at MPA level, it is possible to identify a number of key issues for policy makers in individual MPAs, taking account of their local circumstances and the position for the sub-region identified by the LAA. These key messages for the future direction of policy for the MPAs are set out in Table 18 below.

Table 18: Planning implications summary

Mineral Planning Authority	Aggregate Resources Present?	Aggregate Extraction Sites with Live Consents?	Aggregate Wharves?	Planning Implications
Greater Manchester Authorities (Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford and Wigan)	Yes	Yes	No	• The Greater Manchester Minerals Plan was adopted in April 2012. The Minerals Plan identifies areas of search which could contribute to meeting any shortfall in provision of aggregates during the Plan Period should a suitable planning application be made. • Greater Manchester to continue to work with industry in order to contribute to the apportionment and participate in AWP. • Safeguarding of mineral resources
Halton	No	No	No	• Prioritise use of secondary and recycled material. • Safeguard critical transport infrastructure. • Provide for windfall applications appropriately. • Continue to work with industry in order to contribute to the

Mineral Planning Authority	Aggregate Resources Present?	Aggregate Extraction Sites with Live Consents?	Aggregate Wharves?	Planning Implications
				apportionment and participate in AWP. • Monitor landbank adequacy through annual LAA.
Knowsley	No	No	No	• Prioritise use of secondary and recycled material. • Safeguard critical transport infrastructure. • Provide for windfall applications appropriately. • Continue to work with industry in order to contribute to the apportionment and participate in AWP. • Monitor landbank adequacy through annual LAA. • Safeguarding of mineral resources
Liverpool	No	No	Yes	• Prioritise use of secondary and recycled material. • Safeguard wharves and transport infrastructure. • Provide for windfall applications appropriately. • Continue to work with industry in order to contribute to the apportionment and participate in AWP. • Monitor landbank adequacy through annual LAA. • Safeguarding of mineral resources
Sefton	No	No	Yes	• Prioritise use of secondary and recycled material. • Safeguard wharves and transport infrastructure. • Continue to work with industry in order to contribute to the apportionment and participate in AWP • Safeguarding of mineral resources
St Helens	Yes	Yes	No	• Prioritise use of secondary and recycled material. • Safeguard critical transport infrastructure. • Provide for windfall applications appropriately.

Mineral Planning Authority	Aggregate Resources Present?	Aggregate Extraction Sites with Live Consents?	Aggregate Wharves?	Planning Implications
				• Continue to work with industry in order to contribute to the apportionment and participate in AWP. • Monitor landbank adequacy through annual LAA. • Safeguarding of mineral resources
Warrington	Yes	Yes	No	• Prioritise use of secondary and recycled material. • Safeguard critical transport infrastructure. • Provide for windfall applications appropriately. • Continue to work with industry in order to contribute to the apportionment and participate in AWP. • Monitor landbank adequacy through annual LAA. • Safeguarding of mineral resources
Wirral	No	No	Yes	• Prioritise use of secondary and recycled material. • Safeguard wharves and associated transport infrastructure • Safeguard critical transport infrastructure. • Provide for windfall applications appropriately. • Continue to work with industry in order to contribute to the apportionment and participate in AWP. • Monitor landbank adequacy through annual LAA. • Safeguarding of mineral resources

12.3. There are a number of broader messages that emerge from this process that apply to the strategic position in the sub-region and the strengthening of the LAA process for the future. These include:

- There is a need to ensure liaison with those authorities, including relevant National Parks, that export aggregates to the sub-region as these are important to ensure future growth ambitions are realised.

- There is a need to monitor permitted sand and gravel reserves as they become depleted to ensure steady and adequate supply.
- Future marine aggregate extraction may be increasingly competing with other offshore priorities and the Marine Spatial Plan for the Irish Sea area should be taken into account in future Local Aggregate Assessments.
- There is a data gap regarding secondary and recycled aggregates and potential opportunities should be sought to increase understanding of this material and the level of supply and demand.
- There is a need to safeguard mineral resources

12.4. A number of the issues regarding weak or absent data have been recognised by the AWP and targeted for further work at that level. The MPAs of the sub-region welcome this and will work with the AWP to resolve the identified issues and strengthen the evidence base supporting the LAA process in the future.

13. Glossary

Term	Acronym	Definition
Active Permissions		Sites with valid permissions which may be working or mothballed on a temporary basis (and for which new working and reclamation schemes are not required before working can recommence)
Association of Greater Manchester Authorities	AGMA	AGMA is the local government association for Greater Manchester. It represents the ten district councils of Greater Manchester (Manchester, Bolton, Bury, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford, Wigan); developing policy, lobbying government and others, and running a range of services. In this capacity, AGMA directs the strategic public and social services of Greater Manchester on behalf of it's ten metropolitan boroughs and the Greater Manchester Integrated Transport Authority, the Greater Manchester Police Authority, the Greater Manchester Fire and Civil Defence Authority and the Greater Manchester Waste Disposal Authority, who are all members by subscription.
Aggregate Minerals		Defined in Technical Guidance to the National Planning Policy Framework (DCLG, Mar 2012) (Paragraph 54) as sand and gravel, and crushed rock. Generally they are used in the construction industry for purposes of making concrete, mortar, asphalt or for roadstone, drainage or bulk filling.
Aggregate Reserves		The amount of crushed rock or sand and gravel which is covered under planning permissions for working, but is still to be extracted.
Aggregate Resources		All of the deposits of crushed rock and sand and gravel which are known to be present in the ground.
Aggregate Sales		The amount of an aggregate (crushed rock, sand & gravel, secondary or recycled) sold in a set period of time.
Aggregate Working Party	AWP	The AWP is a technical working group with membership drawn from mineral planning authorities, the minerals industry and Department for Communities and Local Government (DCLG).
Construction, Demolition and Excavation Waste	CD&E	Waste arising from site construction or refurbishment, demolition or excavation.
Core Strategy		Document setting out the long-term spatial vision for the

Term	Acronym	Definition
		local planning authority area, the spatial objectives and strategic policies to deliver that vision. The Core Strategy has the status of a *Development Plan Document* (PPS12 definition).
Crushed Rock		Hard rock (such as limestone) which has been quarried, fragmented and graded for use as aggregate.
Department of Communities and Local Government	DCLG	The Government department responsible for planning and local government.
Dormant Site		Dormant sites are those sites which were granted planning permission after 21 July 1943 and before 1 July 1948, but in which no substantial mineral working has been carried out between 1 May 1989 and 30 April 1991.
Duty to Co-operate		Requirement in the NPPF for Planning Authorities to address strategic issues in conjunction with neighbouring authorities who have to deal with the same issues.
Examination in Public	EIP	The process of determining whether a Development Plan Document meets the requirements of the relevant legislation and is 'sound'. Soundness is tested by considering whether the DPD is justified; effective and consistent with national policy. As part of that process the Inspector (appointed by the Secretary of State) Will consider representations made on the soundness of the DPD by interested parties such as local residents and developers. At the end of the examination the Inspector will issue a report to the Local Planning Authority (LPA). The report will contain recommendations relating to any changes that need to be made to the DPD, to ensure it is sound, before being formally adopted. The recommendations will be binding if the LPA chooses to adopt the DPD that has been examined.
Extant Permission		Existing planning permission.
Inactive Site		Minerals extraction site with planning permission but where no extraction is currently taking place.
Landbank		The sum in tonnes of all permitted reserves for which valid planning permissions are extant. This includes current non-working sites but excludes dormant sites and 'inactive sites'. They are a monitoring tool to provide MPA's with early warning of possible disruption to the provision of an adequate and steady supply of land-won aggregate in their

Term	Acronym	Definition
		area.
Licenced Marine Aggregate Dredging Areas		Areas allocated under the sea where dredging is allowed to take place with the permission of the Marine Management Organisation.
Local Aggregate Assessment	LAA	A report prepared by a Mineral Planning Authority or group of Authorities which assesses the demand for and supply of aggregates now and in the future.
Local Development Framework	LDF	The folder of documents which contains all of the a local authorities local development documents (including Local Plan documents, Local Development Schemes, Statements of Community Involvement and Supplementary Planning Documents)
Local Development Scheme	LDS	Document setting out the programme for preparing *Local Development* *Documents* (PPS12 definition).
Local Plan		The NPPF defines a Local Plan as the plan for the future development of an area, drawn up by the local planning authority. In law this is described as the development plan documents adopted under the Planning and Compulsory Purchase Act 2004. Current Core Strategies and other planning policies, which under the regulations would be considered to be development plan documents, form part of the Local Plan. The term includes old policies which have been saved under the 2004 Act.
Marine dredged sand and gravel		Sand and gravel excavated from the sea by dredging.
Merseyside Environmental Advisory Service	MEAS	Merseyside Environmental Advisory Service is a sub-regional service that works for Halton, Knowsley, Liverpool, Sefton, St.Helens and Wirral Councils. The service comprises professional technical staff and its role is to assist the Merseyside Districts by providing technical advice on a wide range of environmental matters, primarily to the Planning Services of the Councils.
Mineral Planning Authority	MPA	The planning authority responsible for the control of mineral extraction and waste management development, through forward planning, determining of planning applications, monitoring and enforcement.
Mineral Safeguarding Areas	MSA	An area designated by Mineral Planning Authorities which covers known deposits of minerals which are of sufficient economic value to warrant protection from unnecessary

Term	Acronym	Definition
		sterilisation by non-mineral development.
National Planning Policy Framework	NPPF	The document that sets out the government's planning policies for England. The Framework sets out planning policies for England and how they are expected to be applied. It provides guidance for local planning authorities and decision-takers, both in drawing up plans and making decisions about planning applications.
Primary Aggregate		Crushed rock and sand and gravel, which is extracted directly from the ground.
Recycled Aggregate		Material sourced from construction and demolition waste, highway maintenance waste and excavation and utility operations and then be reused as aggregate.
Sand and gravel		Rock which nature has already broken into fragments mostly by weathering and by erosion during the ice age.
Secondary Aggregate		Derived from a range of materials which may be used as aggregate, including power station ash and colliery spoil.
Sub-regional Apportionment		The splitting of regional supply guidelines for aggregate minerals between planning authorities or sub regions.

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