West of England

Local Aggregates Assessment 2013-2022

Bath & North East Somerset Council

Bristol City Council

North Somerset Council

South Gloucestershire Council

E1.0 Executive Summary

E1.1 This document is the Local Aggregates Assessment (LAA) to 2022 for the West of England, which includes data on aggregates for up to the end of that year; (e.g. permitted reserves and production (sales) for crushed rock as at the end of 2022).

E1.2 The main element of aggregates production in the West of England (WoE) is primary crushed rock from quarries in North Somerset and South Gloucestershire (South Glos), with much smaller contributions from marine dredged sand and gravel from the Bristol Channel, landed at Avonmouth, and from recycled aggregate (estimated). This is shown by Table E1 and the dashboard E2 below. There are no land-won sand and gravel resources in WoE. Production of secondary aggregate in WoE is limited, mainly comprising aggregate produced from incinerator bottom ash by a firm at Avonmouth.

Table E1: Estimated supply of aggregates in the West of England 2013-2022 (million tonnes (Mt))
(including sales of primary crushed rock, landings of marine sand and gravel at Avonmouth, and estimates for production of recycled aggregate)

Year	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**10 yr Ave. 2013-2022**	**3yr Ave. 2020-2022**
Crushed Rock	2.66	3.20	3.62	3.72	3.59	3.38	4.42	4.17	5.55	4.54	**3.89**	**4.75**
Marine Sand & Gravel	0.34	0.38	0.39	0.44	0.59	0.59	0.62	0.56	0.68	0.59	**0.52**	**0.61**
Recycled Aggregates	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.48	0.47	0.33	**0.60**	**0.43**
Total	**3.68**	**4.26**	**4.69**	**4.84**	**4.86**	**4.65**	**5.72**	**5.21**	**6.7**	**5.46**		

Dashboard E2

	Crushed rock	**Marine sand and gravel**	**Recycled aggregates (estimated)**
2022 sales (Mt)	4.54	0.59	0.33
10 year average sales (Mt)	3.89	0.52	0.60
3 year average sales (Mt)	4.75	0.61	0.43
1 year trend	Down	Down	Down
LAA rate (Mt)	3.89	N/A	N/A
Permitted reserves remaining at end of 2022 (Mt)	104.49	N/A	N/A
Landbank (years)	26.86 years	N/A	N/A

E1.3 About 4.54 million tonnes of crushed rock aggregate was produced (sold) at quarries in the WoE in 2022, a decrease of 1.01mt (18%) on the 5.55mt that was produced in 2021. The ten year average

crushed rock production (sales) figure for 2013-2022 of 3.89mt represents an incease on that for the previous ten year period ending 2021, (ten year average of 3.72mt). The West of England authorities intend to continue to use the rolling 10 year average sales figure as the basis for planning for a steady and adequate supply of aggregates.

E1.4 The three year (2013-2022) average for crushed rock production (sales) is 4.75mt, so is higher than the ten year average.

E1.5 Total permitted reserves in WoE at the end of 2021 were 104.49mt giving a landbank of over 26 years based on the average annual production over the 10 year period 2013– 2022 (3.89mt). However this does not take account of factors which could affect the deliverability of the permitted reserves, for example the fact that a proportion of the permitted reserves were at the mothballed Cromhall Quarry.

E1.6 In preparing their local plans, South Gloucestershire and North Somerset Councils are taking account of such factors and the need for appropriate policies and allocations to help ensure a steady and adequate supply of aggregates, as is required by national planning policy.

E1.7 British Geological Survey AM2019 data shows that most (86%) of the total of 1.653mt of primary aggregate consumed in the WoE in 2019 was crushed rock. Consumption of sand and gravel was significantly lower (14%) and appears to have fallen since the last AM survey in 2014.

1.0 Introduction

1.1 Aggregates are the most commonly used minerals in the UK and are essential to a modern economy. They provide the critical raw material for built development and other construction, manufacturing and the maintenance of infrastructure, through their use as concrete, mortar, finishes, roadstone, constructional fill and railway ballast.

1.2 Aggregates can refer to any granular material formed from a natural rock substance, although principally aggregate minerals are sand and gravel and crushed rock. They come in a variety of forms, each with their own characteristics and properties, which determines their many uses.

1.3 There are three sources of supply of aggregates – primary, secondary and recycled. The majority of aggregate demand is met from primary sources. This involves extracting material directly from the ground and dredging from the sea floor. There are significant geographical imbalances in the occurrence of suitable natural aggregate resources and the areas where they are most needed.

1.4 The National Planning Policy Framework (NPPF) paragraph 213 requires an annual Local Aggregate Assessment (LAA) to be produced by Mineral Planning Authorities (MPAs) in order to plan for a steady and adequate supply of aggregates.

1.5 As has been the case in previous years, this LAA has been prepared jointly by the four West of England (WoE) unitary authorities (Bath and North East Somerset Council, Bristol City Council, North Somerset Council and South Gloucestershire Council) and is an important part of the evidence base to inform local plan preparation. The four authorities have historically worked very successfully together on projects in the WoE, and through the preparation of this LAA have continued this close working relationship.

1.6 Furthermore, the mineral planning authorities for the land-won aggregate producing areas in the WoE (South Gloucestershire and North Somerset), have worked together closely in planning for future aggregate provision, to meet the sub-regional apportionments that have historically been set for the former Avon (WoE) area. For commercial confidentiality reasons, owing to the low number of quarry operators in the individual authority areas, figures for production and permitted reserves have usually been amalgamated for the West of England in the South West Aggregates Working Party (SWAWP) annual reports and also through LAAs.

2.0 Aggregates in the West of England

2.1 The West of England has a long history of mineral working, not only for use as aggregate, but also for industrial purposes, brick manufacture and building stone. Today's mineral activity is dominated by working of the Carboniferous Limestone for use as a roadstone and construction aggregate. There are no sand and gravel resources of commercial value in the West of England. However 2016 saw the commencement of production of secondary aggregate using incinerator bottom ash from an energy from waste plant at Avonmouth.

2.2 Carboniferous Limestone is worked from quarries in South Gloucestershire and North Somerset. The quarries are mostly capital intensive units, producing added value aggregate products (e.g. coated roadstone, concrete blocks), in addition to screened aggregates.

2.3 As indicated in paragraph 4.4 below, the permitted reserves at limestone quarries in South Gloucestershire and North Somerset at the end of 2022 amounted to a significant total which is used to calculate a land bank. However it is important to note that some of those reserves were at Cromhall Quarry in South Gloucestershire, which has had its plant removed, and has been inactive for 20 years. Wick Quarry, also in South Gloucestershire, was sold to a private individual in 2013 and in November 2015 an application was approved for the restoration of the quarry to a nature reserve. In November 2018 planning consent (PK18/0222/F) was granted for an amended restoration scheme, including restoration to a nature reserve, with some other uses, including an education centre and business and office units. The quarry was acquired by MJ Church in October 2019, the company having operated at the quarry for three years prior to that, under licence.

2.4 Table 1 below shows the eight quarries which had extant planning permissions and/ or permitted reserves in the West of England in 2022. The location of these quarries is shown in Figure 1 below.

Table 1: Crushed Rock Quarries in the West of England

Active Quarries

Site, and state during 2022	Geological Formation	Operator
Stancombe Quarry, near Backwell, N Somerset	Clifton Down Limestone	Tarmac
Freemans Farm, near Barrow Gurney, N Somerset	Clifton Down Limestone	Breedon
Durnford Quarry, near Long Ashton, N Somerset	Clifton Down Limestone	Tarmac
Chipping Sodbury Quarry, S Glos	Black Rock - Clifton Down Limestone	Hanson
Wickwar Quarry, S Glos	Clifton Down Limestone	Breedon
Tytherington Quarry, S Glos	Black Rock Limestone – Burrington Oolite	Hanson

Inactive Quarries

Site, and state during 2022	Geological Formation	Operator
Cromhall Quarry, S Glos	Clifton Down Limestone	N/A

Other Quarries (with reserves but low probability of being worked in short-medium term)

Site, and state during 2022	Geological Formation	Operator
Wick Quarry, S Glos	Gully Oolite - Clifton Down Limestone	N/A

Figure 1: Geological formations and Crushed Rock Quarries

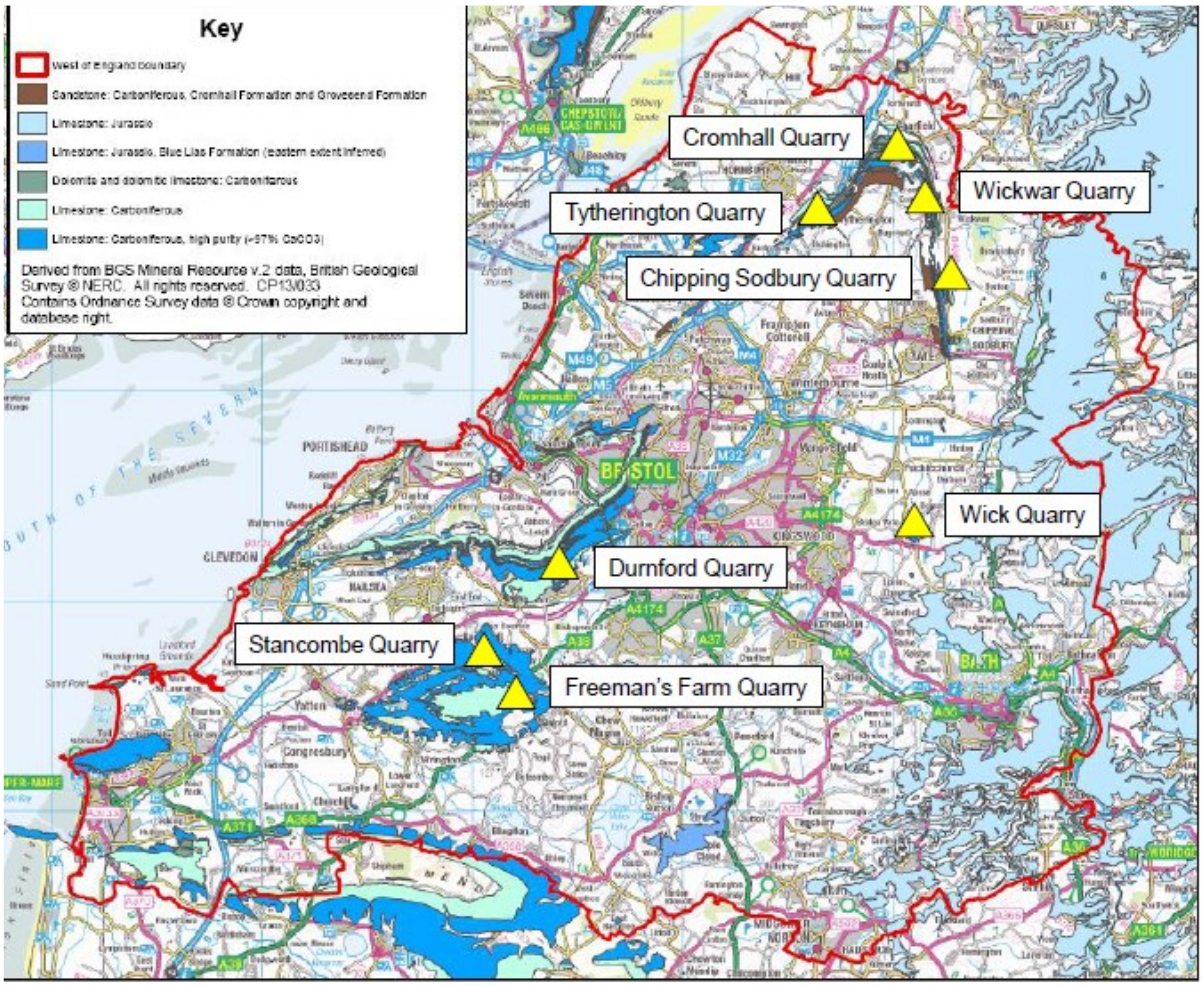
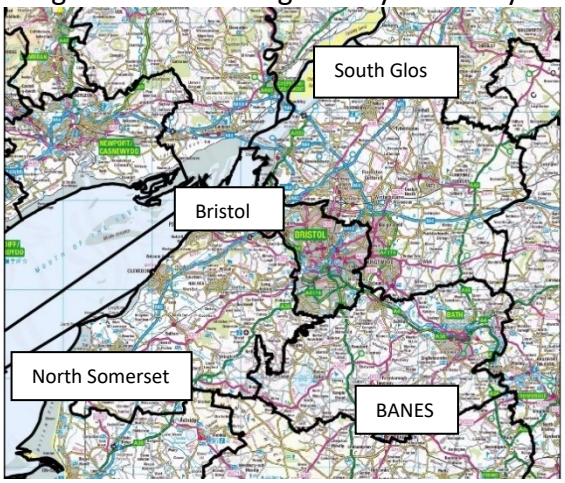


Fig 1a: Plan showing unitary authority boundaries



2.5 While historically Carboniferous Sandstone has been worked in modest quantities in South Gloucestershire and North Somerset for use as High Specification Aggregate (HSA), such activity has ceased within the WoE. HSA is used in road wearing courses and as road surface chippings where high levels of skidding resistance and aggregate durability are required. A Government sponsored research project by Symonds Travers Morgan in the early 1990s identified the Mangotsfield Formation of the Pennant Sandstone in the West of England, along with the Pennant Sandstone resource in South Wales, as the two most promising potential resources of HSA in the highest Polished Stone Value (68+) category in England and Wales. However, there is no known interest in working the HSA resources in the West of England.

2.6 There are no active quarries producing aggregates in the Bristol City or Bath and North East Somerset administrative areas.

3.0 Managed Aggregate Supply System

3.1 The Government has produced national Planning Practice Guidance on minerals, including a section on the Managed Aggregate Supply System (MASS), which "seeks to ensure a steady and adequate supply of aggregate mineral, to handle the significant geographical imbalances in the occurrence of suitable natural aggregate resources, and the areas where they are most needed", (para 060).

3.2 Historically mineral planning authorities (MPAs) have planned to make provision for aggregates based on the apportionment of the sub-national (also referred to as regional) amounts periodically identified in the Government's National and Regional Aggregates Guidelines.

3.3 The Guidelines published in June 2009[1] include a requirement for the South West to make provision for 412 million tonnes of crushed rock over the period 2005-2020.

3.4 The then South West Regional Aggregates Working Party (SWRAWP) subsequently apportioned the 412 million tonnes between the mineral planning authorities in the region and put this forward to the Department for Communities and Local Government (DCLG). For the West of England, the sub-regional apportionment for crushed rock over the period 2005 – 2020 was 79.10 million tonnes, which equates to 4.94 million tonnes (mt) per year. The NPPF para 213 (d) states that such published sub national guidelines should be taken into account as a guideline in planning for future demand for and supply of aggregates.

3.5 However the NPPF para 213(a) indicates that local authorities should plan for a steady and adequate supply of aggregates by preparing the annual LAA based on a rolling average of 10 years' sales data and other relevant local information, including an assessment of all aggregate supply options. MPAs should make provision for the land-won and other elements of their LAA in their local mineral plans; (para 213 (c)). This is partly why the LAA is very important.

[1] DCLG (2009) National and regional guidelines for aggregates provision in England 2005-2020. London: HMSO. http://www.communities.gov.uk/publications/planningandbuilding/aggregatesprovision2020

4.0 Aggregate Supply and Demand

Crushed rock

Sales/ production

4.1 The West of England is a significant producer of crushed rock in the South West, being the second highest producer after Somerset. Sales over the 10 year period 2013 – 2022 are shown in Table 2 below.

Table 2: Crushed rock sales in the West of England 2013 – 2022 (million tonnes)

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	3 yr. ave. 2018-2020	10 yr. ave. 2012-2021
Sales	2.66	3.20	3.62	3.72	3.59	3.38	4.42	4.17	5.55	4.54	**4.75**	**3.89**

Source: SWRAWP Annual Reports and annual monitoring by local authorities

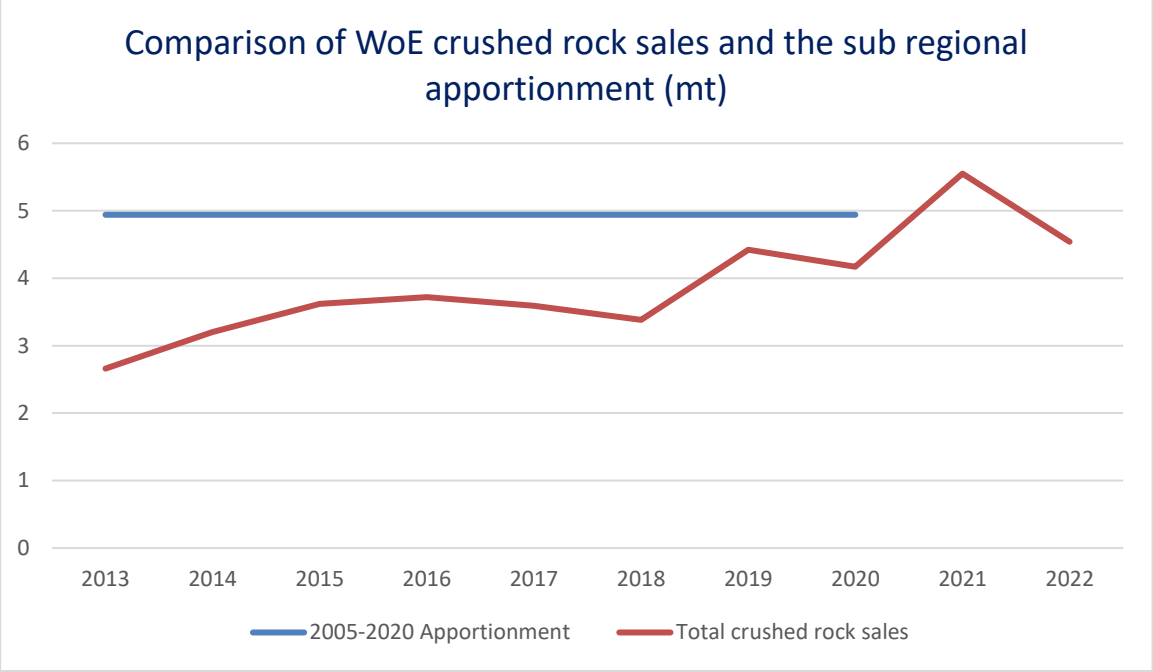
4.2 About 4.54 million tonnes of crushed rock aggregate was produced (sold) at quarries in the WoE in 2022, a decrease of 1.01mt (18%) on the 5.55mt that was produced in 2021. However the ten year average crushed rock production (sales) figure for 2013-2022 of 3.89mt represents an increase on that seen in the previous ten year period ending 2021; (ten year average of 3.72mt).

4.3 The three year (2013-2022) average for crushed rock production (sales) is 4.751mt, so is higher than the ten year average.

4.4 Total permitted reserves in WoE at the end of 2022 were 104.49mt giving a landbank of over 26 years based on the average annual production over the 10 year period 2013– 2022 (3.89mt). However this does not take account of factors which could affect the deliverability of the permitted reserves, for example the fact that a proportion of the permitted reserves were at the mothballed Cromhall Quarry.

4.5 Figure 2 below provides a comparison between the West of England's sales figures over the period 2013 to 2022 and the area's sub regional apportionment (which goes up to 2020). As can be seen, throughout most of this period, total crushed rock sales do not meet the level of the sub regional apportionment, except that in 2021 it was exceeded for the first time in many years.

Figure 2



Imports and exports of crushed rock

Exports

4.6 Table 3 below shows data on crushed rock exports from the West of England.

Table 3: West of England Crushed Rock Exports 2019

Destination area	Export amount from WoE (tonnes)	%
Somewhere in South West, including WoE	4,141,396	94
Somewhere elsewhere in England or SE Wales	276,315	6
TOTAL	4,417,711	100

Source: Primarily the BGS AM2019

4.7 Table 3 shows that in 2019, the great majority (about 94%) of the approximately 4.4 million tonnes of crushed rock aggregate produced at quarries in the WoE was sold within the South West region, including in WoE. The remaining 6% was sold to various destinations in the rest of England or SE Wales.

4.8 Previous BGS data (for AM2014 data) suggests that the quarries in North Somerset sold a much higher proportion (77%) of their crushed rock aggregate to buyers in the West of England than the quarries in South Gloucestershire (for whom the proportion was 38%).

4.9 Unfortunately the BGS AM2019 data does not enable this degree of analysis, because it does not provide that level of precision for all the WoE quarries. However it seems reasonable to assume the

situation has not changed greatly. In 2019, operator's data shows that quarries in North Somerset again sold a high proportion (72%) of their crushed rock aggregate to buyers in the West of England (WoE). In contrast, the single South Glos quarry for which more precise data is available sold none of its 2019 crushed rock aggregate to WoE buyers.

4.10 Assuming the situation has not changed much, and that South Gloucestershire quarries continue to export a much greater percentage of crushed rock aggregate outside of the WoE than North Somerset quarries, what might be the reasons? Possibly better access to the motorway network and closer proximity to the markets of Gloucestershire, Wiltshire and the South East may account for this.

4.11 The cross border movement of aggregates is a feature of the industry, but the degree to which it takes place and the particular areas involved may change because demand and supply are dynamic. It is very difficult to predict how the industry would respond if individual quarries close. The situation would be uncertain and it is unreasonable for quarry operators and Mineral Planning Authorities to speculate. What those authorities can do, however, is show the areas where there are likely to be opportunities for mineral development through allocations in minerals plans, so that the industry is fully aware of these opportunities should it seek to respond. South Glos and North Somerset Councils are aware of this and will consider the need for minerals allocations in preparing local plans.

4.12 One of the South Glos quarries (Tytherington) is rail linked, but most crushed rock produced in the West of England is transported by road.

Imports

4.13 The British Geological Survey have produced AM2019 data on the consumption of primary aggregates. This shows that a total of 1.653mt of primary aggregate was consumed in the WoE in 2019 of which the great majority (1.417mt, nearly 86%) was crushed rock.

4.14 Unfortunately it is difficult to determine where this primary aggregate came from, as import data is not available in the AM2019 at WoE level. The data available mainly concerns import movements at regional level, such as into the South West from elsewhere in the UK.

4.15 However we know that in 2014 (from AM2014 data), that about 70-80 % of crushed rock consumed in WoE came from North Somerset, 1-10% from South Gloucestershire, and 10-20% came from Somerset. It may well be that the situation in 2019 was similar: we have seen above that in 2019 the quarries in North Somerset sold 72% of their crushed rock aggregate to buyers in the WoE.

Landbank for crushed rock

4.16 The total permitted reserves of crushed rock in the WoE as at 31 December 2022 were 104.49 million tonnes, giving a landbank of over 26 years based on the ten year sales average for 2013–2022 (3.89mt). Based on the sub regional apportionment figure of 4.94mt the landbank is about 21 years. The significance of these figures is considered in paragraphs 5.6-5.10 below.

Sand and Gravel

4.17 The West of England does not have any commercially viable land-won sand and gravel resources and therefore relies on marine dredged and imported sand and gravel to meet the demand.

Imports

4.18 Consumption of sand and gravel in WoE in 2019 was significantly lower than of crushed rock, totalling 0.236mt, (just 14% of all consumed primary aggregate), of which most (0.207mt) was marine, with only 0.029mt being land won. (Source BGS AM19). Consumption of sand and gravel in WoE appears to have fallen since the AM 2014 survey of about 0.401mt.

4.19 Unfortunately there is no 2019 data on where the consumed sand and gravel came from. All we have is AM2014 data, which shows that, in 2014, land-won and marine dredged sand and gravel consumed in the WoE was mostly (60-70%) from Bristol (presumably landed at Avonmouth) . There was 20-30% from Dorset, 1-10% from Hampshire, 1-10% from Worcestershire, and small amounts (each less than 1%) from Devon, Wiltshire, Central Bedfordshire, Leicestershire and the Solihull area.

Marine dredged sand and gravel

4.20 The Government's UK UK Marine Policy Statement 2011 (paragraph 3.5.1) states that "marine sand and gravel makes a crucial contribution to meeting the nation's demand for construction aggregate materials". The main source of sand and gravel in the West of England is marine-won, although it is predominantly sand as this reflects the market demand. This material is dredged from the Bristol Channel, and landed at Avonmouth. The sand is predominantly used for building and concreting. The small percentage of gravel dredged is mainly used as concreting aggregate, although a small amount is used with sand as fill.

4.21 The mineral rights for marine sand and gravel are owned by the Crown Estate, up to the edge of the continental shelf. Avonmouth receives all of its dredged marine aggregate from the Crown Estate's 'South West' region in the Bristol Channel. The dredged aggregate in this 'region' is landed at a number of locations, including ports in Wales, and Avonmouth is the port that normally receives the largest tonnage of this aggregate.

4.22 Landings of marine sand and gravel at Avonmouth for 2013-2022 are set out in the following table.

Table 4: Marine dredged sand and gravel landings at Avonmouth 2013-2022 (mt)

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	10 Yr Ave.
0.34	0.38	0.39	0.44	0.59	0.59	0.62	0.56	0.68	0.59	**0.52**

Source: Crown Estate

4.23 In 2022 587,665 tonnes of marine dredged primary aggregates (sand and gravel) was landed at Avonmouth, the largest quantity landed at any of the nine ports within the Crown Estate's "South West Region", and accounting for 45.4% of the "South West" total of the approx. 1.293mt that was landed in those ports, that year (Source: Marine Aggregates The Crown Estate Licences Summary of Statistics 2022)

4.24 The approx. 0.68mt landed at Avonmouth in 2021 is the highest tonnage which has been landed there in the 1990-2022 period It is not known what the annual capacity of the port is regarding marine aggregate.

4.25 Dredging is subject to a system of licensing. The licensed areas in the Crown Estate's "South West Region" (which is basically the Bristol Channel) had a total annual permitted offtake tonnage for marine materials in 2022 of about 2.8 million tonnes per annum. However in 2022 only about 1.3mt of primary marine aggregate was landed there. This suggests that permitted capacity exceeds demand.

Recycled Aggregates

4.26 In the West of England recycled aggregate production largely derives from the reprocessing of the 'hard inert' elements of construction, demolition and excavation material (CDE waste), such as concrete, bricks, stone, road planings, rail ballast and glass. Recycling of CDE waste in the West of England is undertaken at fixed recycling sites and temporary construction sites. The fixed sites are generally waste transfer stations and quarries which handle and recycle a range of wastes. Aggregates from these sites are sold on the open market and/or used in the production, at the same site, of materials such as concrete. At temporary construction sites, mobile plant is used to process materials arising from demolition on the site, for use either on the same site (e.g. as construction fill or hardcore) or for sale off-site.

4.27 Robust, precise data on arisings of CDE waste and the quantities of recycled aggregates derived from it are difficult to obtain, particularly for the sub-regional level. Estimates have therefore been developed. Up to and including 2019, the WoE Unitary Authorities have relied on estimates of recycled aggregate produced in WoE derived from national and regional surveys, and assumptions made about the proportions produced in the sub region. However, these estimates could only be regarded as very crude estimates, taking account of the assumptions. For example they assumed that for years when data is not available, the proportion of the CDE waste arising in the South West which is recycled as aggregate is consistent with the proportion for England. They also assumed that the proportion of South West recycled aggregate which is processed in the West of England is the same from 2003 onwards (the only date for which data was available). The estimates for 2012-2019 inclusive in Table 5 below should be considered with these points in mind.

4.28 The 2020, 2021 and 2022 estimates in Table 5 are likely to be more accurate, as they are based on local, more recent, data, obtained by using the Waste Data Interrogator (WDI) for those years, from the Environment Agency (EA). The data provides an estimate for relevant waste arising in WoE, based on inert waste codes (mostly construction and demolition (CD) wastes) identified as acceptable for the production of recycled aggregates. Allowance is then made to take account of factors, notably that the data excludes waste at "exempt" sites not regulated by the EA, and excludes CD waste material processed by mobile plant at construction sites. The estimate also takes account of the fact that a proportion of the waste arising in WoE will not be converted to recycled aggregate in WoE; some will be landfilled or incinerated, and some will just be transferred for later treatment elsewhere, and may not ultimately become recycled aggregate.

4.29 Because it is considered more accurate, this WDI methodology is likely to be used in future years and LAAs.

Table 5: Estimated Sales of Recycled Aggregates in the West of England 20012-2022 (mt)

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	**Ave. (10yr)**

0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.48	0.47	0.33	**0.60**

(Estimates based on an assumption-based methodology for 2012-2019, and WDI data for 2020, 2021 and 2022.)

Total Aggregates Supply

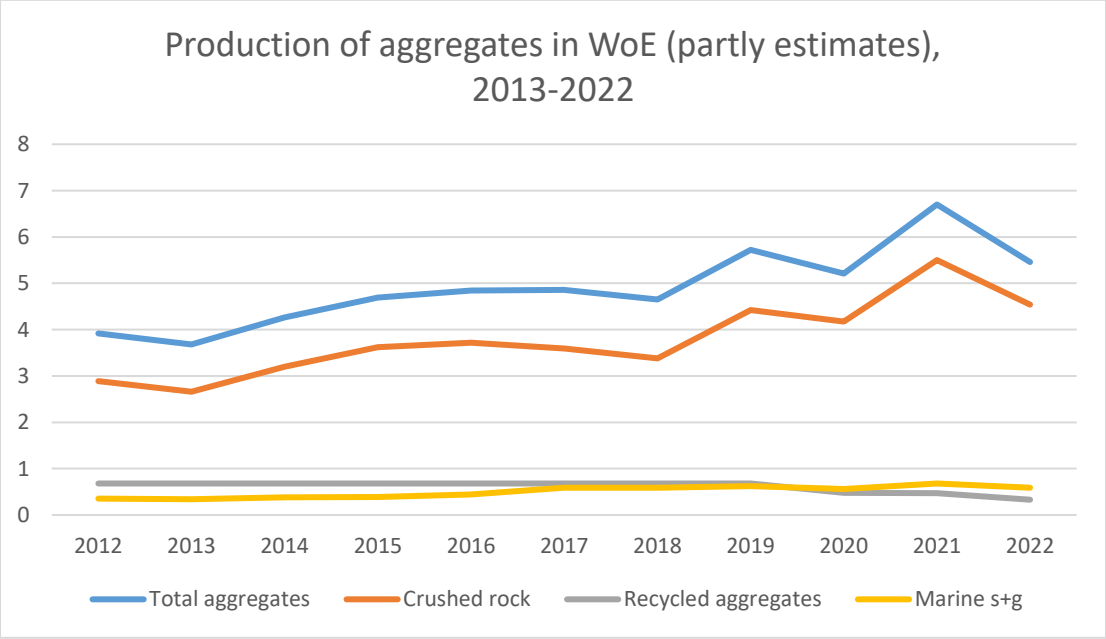
4.30 The overall supply of aggregates in the West of England is from a variety of sources – locally land-won crushed rock, recycled aggregates and marine dredged aggregate– as shown in Table 6. This data doesn't take account of exports of crushed rock, or imports of land won sand and gravel. The table refers to "estimated supply" because the recycled aggregates element is estimated, as indicated above.

Table 6: Estimated supply of Aggregates in the West of England 2013 – 2022, (including sales of crushed rock, landings of marine sand and gravel at Avonmouth, and estimate for production of recycled aggregate). (Mt)

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	**10 yr Ave. 2013-2022**
Crushed Rock	2.66	3.20	3.62	3.72	3.59	3.38	4.42	4.17	5.55	4.54	**3.89**
Marine Sand & Gravel	0.34	0.38	0.39	0.44	0.59	0.59	0.62	0.56	0.68	0.59	**0.52**
Recycled Aggregates	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.48	0.47	0.33	**0.60**
Total	**3.68**	**4.26**	**4.69**	**4.84**	**4.86**	**4.65**	**5.72**	**5.21**	**6.7**	**5.46**	

4.31 The figures in the table are depicted in the chart in Figure 3 below.

Figure 3 (N.B. figures are in million tonnes)



5.0 Future Aggregates Demand and Supply

5.1 The National Planning Policy Framework (NPPF) requires that minerals planning authorities should prepare annual LAAs, either individually or jointly to forecast future demand, "based on a rolling average of 10 years sales data and other relevant local information, and an assessment of all supply options (including marine, secondary and recycled sources)". As indicated above, in this LAA the 10 year average sales figure for crushed rock in WoE is 3.89mt, suggesting that future demand over the next 10 years might be in the region of that, amounting to a total of about 39mt. However this is theoretical. The next LAA might point to a different ten year average and hence a different forecast.

5.2 Regarding "other relevant local information", the councils have had regard to the National Infrastructure Delivery Plan (NIDP) 2016-2021, which lists a number of forthcoming infrastructure projects in the South West. Listed projects within the WoE include planned improvements to Bristol Temple Meads Station and the electrification of the Great Western line. It is possible that aggregates from quarries in the WoE might be needed for this. The planned nuclear power plant at Hinkley Point C is also listed in the NIDP, but is located further from the WoE. The National Infrastructure Delivery Plan and related information will be monitored as a potential influence on demand for aggregates within the West of England.

Crushed Rock

5.3 Both South Gloucestershire and North Somerset Councils in their adopted Core Strategies have identified crushed rock requirements using the WoE sub-regional apportionment figure of 79.10 million tonnes for the period 2005 – 2020, and extrapolating this figure to 2026. As indicated in paragraph 3.4, the annualised sub-regional apportionment is 4.94mt.

5.4 However, as indicated in para 3.5 above, while such sub national guidelines should be taken into account in planning for future demand for and supply of aggregates, local authorities should plan for a steady and adequate supply of aggregates by preparing the annual LAA based on a rolling average of 10 years' sales data and other relevant local information. As we have seen the ten year average of crushed rock sales in WoE in this LAA is 3.89mt.

5.5 The Core Strategy crushed rock requirements reflect a splitting of the West of England figure 60:40 between South Gloucestershire and North Somerset, to reflect past sales, with South Gloucestershire taking the higher percentage. Historically the other unitary districts in the WoE, Bath and North East Somerset and Bristol City Council, have never made a significant contribution to aggregates supply in the South West, due to the scale and nature of the mineral operations and the geology of those areas. This is likely to continue. South Gloucestershire and North Somerset have extensive permitted reserves of aggregates and together have historically made provision for the sub regional apportionment.

5.6 Paragraph 4.16 above shows that the landbank for crushed rock for WoE as at the end of 2022 was just over 21 years based on the sub regional apportionment (4.94mt), and over 26 years based on the 10 year sales average of 3.89mt. The latter is the appropriate means of landbank calculation, according to national Planning Practice Guidance on minerals, paragraph 083. By that calculation the landbank is well beyond the life of both the South Gloucestershire and North Somerset Core Strategies, (which go forward to 2027 and 2026 respectively). It implies that a 10 year landbank for crushed rock could theoretically be maintained in WoE well beyond 2040, without additional reserves being permitted.

5.7 However this assumes that all the permitted reserves are readily deliverable. It does not take account of factors which could affect this; for example the fact that some of the permitted reserves are at the mothballed Cromhall Quarry, although Tytherington Quarry, previously also mothballed, fairly recently reopened.

5.8 Also the permitted reserves are not evenly distributed between quarries and between North Somerset and South Gloucestershire. Total remaining permitted reserves in South Gloucestershire are greater than those in North Somerset, even if you exclude those at the mothballed Cromhall Quarry. In North Somerset for many years there have been significantly greater remaining permitted reserves at the Stancombe and Freemans quarries than at Durnford Quarry, and the planning consent for the latter required mineral extraction there to cease at the end of 2022 .

5.9 In preparing local plans, South Gloucestershire and North Somerset Councils have considered such factors, including whether they have implications regarding capacity of sites to supply local and more distant markets in the future.

5.10 The councils have liaised with operators as necessary and considered the need for appropriate local plan policies and allocations to help ensure continuation of a steady and adequate supply of aggregates, taking account of factors like productive capacity, remaining reserves, and any existing allocations at quarries.

Marine Sand and Gravel

5.11 As indicated in paragraph 4.25 above, comparison of permitted and actual average offtake figures of marine dredged sand and gravel suggests that there is likely to be scope for an increase in the volume landed in the Bristol Channel as a whole.

Recycled Aggregates

5.12 The level of supply of recycled aggregates is influenced by the volume of arisings of CDE waste and the proportion of this waste that is recycled for aggregate use. A potential constraint on increased production is the availability of adequate capacity at recycling facilities located in close proximity to sources of CDE waste, and markets for the recycled aggregates derived from that waste.

Transportation Infrastructure

5.13 It is desirable that the availability of wharves at docks that handle or could handle aggregates, should be safeguarded through relevant local pans. Similarly it is advantageous to safeguard railheads that have been or could be used for the transport of aggregates to and from the West of England by rail, to maintain their potential. The only railhead which has been used in fairly recent years for the transport of aggregates is at Tytherington Quarry. This is safeguarded by South Gloucestershire Council.

5.14 Bath and North East Somerset Council continue to safeguard a railhead at Westmoreland, Station Road, Bath, as a rail freight facility and interchange through their Placemaking Plan. It has been used previously to transfer and transport compacted waste, and may have the potential to be used in the transport of aggregates in the future.

Implications for individual Mineral Planning Authorities

5.15 Since the distribution of mineral resources and supporting infrastructure across the West of England is uneven, Table 7 provides a summary of the issues identified above and identifies the MPA(s) to which each is relevant.

Table 7 - Implications of the Local Aggregate Assessment for West of England MPAs

	Bath & North East Somerset	Bristol City	North Somerset	South Gloucestershire
Safeguarding/provision of crushed rock reserves and processing capacity			▲	▲
Safeguarding of wharf capacity for marine aggregates		▲	▲	
Maintaining processing capacity for recycled aggregates	▲	▲	▲	▲
Safeguarding of rail infrastructure with possibility of using it in movement of aggregates	▲	▲		▲

Acknowledgements

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