North Wales Regional Aggregates Working Party

Annual Report 2020

Published March 2024

Acknowledgement

The NWaRAWP wishes to acknowledge the financial support of the Welsh Government, which has enabled this report to be coordinated and published by Flintshire County Council. The NWaRAWP also wishes to record its thanks to all those in the industry and the Mineral Planning Authorities in the North Wales region who have contributed to the production of the report.

The statistics and statements contained in this report are based on information from a large number of mainly third-party sources and are compiled to an appropriate level of accuracy and verification. Users of this report should obtain corroborative data before making major decisions based on the information.

This Annual Report covers the calendar year 1st January 2019 to 31st December 2020. During that period the North Wales Regional Aggregates Working Party (NWaRAWP) officers were:

Chairman:	Andrew Farrow, Planning, Environment & Economy, Flintshire County Council, County Hall, Mold, CH7 6NF
Technical Secretary: until December 2021	Gary Nancarrow, Planning, Environment & Economy, Flintshire County Council, County Hall, Mold, CH7 6NF
Current Technical Secretary	Hannah Parish, Planning, Environment & Economy, Flintshire County Council, County Hall, Mold, CH7 6NF

Copies of the report are available electronically on the NWaRAWP web site http://www.nwrawp-wales.org.uk

Terms of Reference for the NWaRAWP

1. To assess the total sand and gravel, and hard rock reserves available in the region suitable for aggregate production (i.e. those with planning permission and other areas where there is some commitment in local authority statutory and non-statutory plans), making reference to areas where planning permission has been refused and to those in industry ownership; and taking into account the availability of marine dredged materials and the use of materials for non-aggregate purposes.

2. To monitor the production and sales of aggregate minerals within the region.

3. To assess the extent of imports of aggregates from other regions.

4. To assess the likely demand for aggregates and to indicate whether, current permitted reserves are likely to be adequate.

5. To hold at least one RAWP meeting per year, with membership to include representatives from, Welsh Government, DLUHC, MPAs, MPA, BAA, NRW and such other representatives as appropriate.

6. To produce, supply and publish on the North Wales RAWP website an Annual Monitoring Report containing core information to inform stakeholders in a consistent manner of the findings of the annual survey.

7. To support the National Minerals surveys, which include all inter-regional movements of aggregate, in years when such surveys are carried out.

In addition, the North Wales RAWP is charged with carrying out a number of specific duties set out in the Minerals Technical Advice Note 1 (MTAN1) and in particular those described in Annex A of MTAN 1 which include the monitoring of aggregate production, the assessment of demand and supply, and the preparation of Regional Technical Statements every five years.

Contents

1 INTRODUCTION 2
2 NORTH WALES REGIONAL AGGREGATES WORKING PARTY (NWaRAWP)..... 4
3 AGGREGATE SALES 2009 – 2020 AND SURVEY RESULTS FOR 2020 5
4 RESERVES AND LANDBANKS 16
5 SECONDARY & RECYCLED AGGREGATES 18
6 RESEARCH 20
7 REGIONAL TECHNICAL STATEMENT (RTS) 21
Appendix 1: Sites Included in the 2020 Survey 24
Appendix 2: Dormant/Inactive Sites included in 2020 Survey 25
Appendix 3: North Wales Aggregates Working Party Publications 26
Appendix 4: Glossary and Acronyms 28
Appendix 5 Current NWaRAWP Membership (at date of publication) 31

Tables

1	Aggregate Sales – North Wales Region 2009-2020	5
2.1	Aggregate Sales by Mineral Planning Authority area 2009-2020 Crushed Rock	7
2.2	Aggregate Sales by Mineral Planning Authority area 2009-2020 Sand & Gravel	7
3.1	Crushed Rock Sales, Limestone: N Wales 2020	10
3.2	Market Fluctuations of Limestone sales between 2019-2020	11
3.3	Crushed Rock Sales, Granite: N Wales 2020	11
3.4	Market Fluctuations of Granite sales between 2019-2020	12
3.5	Crushed Rock Sales, Total Aggregate: N Wales 2020	13
4	Sand and Gravel Sales: N Wales 2020	14
5	2019 Aggregate Mineral Survey Data (BGS)	15
6	Crushed Rock Reserves	16
7	Sand & Gravel Reserves	16
8	Reserves and Landbanks for Aggregates N Wales 3 Year Sales Average	17
9	Slate Waste Produced as a Secondary Aggregate 2019 and 2020	19
10	Crushed Rock Aggregate Sales in 2020 by Mineral Planning Authority in comparison to the RTS2 annualised apportionments	22
11	Sand and Gravel Sales in 2020 by Mineral Planning Authority in comparison to the RTS2 annualised apportionments	22

Figures

1	North Wales Aggregate Sales 2009-2020 – Crushed Rock	6
2	North Wales Aggregate Sales 2009-2020 – Sand and Gravel	6
3	Mineral Authority Area Sales 2009-2020 - Crushed Rock	8
4	North Wales Sales 2009-2020 - Sand and Gravel	8
5	Crushed Rock Sales 2020 End Use: Limestone	10
6	Crushed Rock Sales 2020 End Use: Granite	12
7	Crushed Rock Sales 2020 End Use: Total Crushed Rock	13
8	Crushed Rock Type Market Share 2020	14
9	Sand and Gravel End Use 2020	15

EXECUTIVE SUMMARY

Reserves

Reserves are steadily declining for all types of aggregate, however with ownership changes, some reserves have been re-assessed. Production of crushed rock is dominated by Flintshire, although new reserves of limestone are required to meet projected demand in Flintshire and Anglesey. There remains an imbalance in sand and gravel reserves with production being dominated by output in Wrexham. New reserves are likely to be required in Gwynedd, Flintshire and Wrexham. Reserves of Limestone are declining faster than the replenishment rate.

New Permissions during 2020

There have been no significant new reserves of any aggregate type consented in any local authority area during 2020. However, planning applications for new limestone reserves are pending or have recently been submitted in Denbigh and Flintshire, and for slate in Gwynedd.

Landbanks

The impact of the 2008 financial crisis is still evident on the 10-year sales figures, however the 3-year sales figures show a modest improvement resulting in a shorter projected landbank, by 3 years.

Markets

The main markets for aggregates remain NE Wales and NW England, with Limestone being the main commodity sold. Granite sales (excluding slate) remain depressed due to lack of rail ballast contracts, excepting high PSV uses. Slate sales remain steady with fill, decorative and local markets.

Major developments 2019-2020

Caernarfon bypass construction began in 2018/19, impacting upon sales in 2019. Other projects have failed to materialise, including the projected Nuclear power station and the A55 upgrade. HS2 is likely to have a future impact upon sales and reserves as demand ripples out.

1 INTRODUCTION

1.1 This report, by the North Wales Regional Aggregates Working Party (NWaRAWP) and **covers the calendar year for 2020.** Each year the NWaRAWP co-ordinates the aggregate sales information received from all mineral's operators across the North Wales region. The work of the NWaRAWP has been funded by Welsh Government (WG) since April 2002. The current grant funding runs until 2023.

1.2 The collated information in this report makes a significant contribution to the ongoing study of supply and demand patterns and provides a vital input into the monitoring and review of Welsh Government's policy for aggregates enshrined in Planning Policy Wales and amplified in Minerals Technical Advice Note 1: Aggregates (MTAN1). It also assists in the monitoring of progress towards the achievement of the recommendations set out in the *Regional Technical Statement – Second Review (RTS2) – September 2020*. This information is also necessary to Local Planning Authorities in carrying out their statutory functions in respect of the preparation of local development plans and the determination of planning applications. The information is also made available to the general public and industry, the latter using it to assist in planning new investment.

1.3 The Mineral Products Association (MPA) has issued advice to its members in relation to the confidentiality of data on aggregates supply which is supplied to Local Planning Authorities in response to the annual aggregate working party survey. All data is provided on a 'Commercial in Confidence' basis and can be used by Local Planning Authorities for purposes associated with their planning functions so long as it prevents data being ascribed to individual planning units, unless specific permission to use the data is given by the operator. The British Aggregates Association has always encouraged members to fully disclose relevant information.

1.4 This report is intended for use by those involved with the supply and demand of aggregates for the construction industry. It provides statistics and information which:

- assist government in its aim of developing robust and relevant aggregate mineral policies,
- allows mineral planning authorities to carry out their statutory functions in respect of the preparation of development plans and effective development management in relation to mineral extraction,
- assists the industry with the planning of future development and investment

1.5 The report may also be of use and interest to the general public and those bodies carrying out research into matters related to the supply and demand of aggregates.

1.6 It covers aggregate sales for the calendar year 2020, and where appropriate (e.g. permitted reserves) relates the position at 31 December 2020. Reserve data in

this report is generally as provided by quarry operators or is calculated by MPAs based on information provided in previous years with sales for subsequent years deducted.

1.7 A good level of returns was again received for the 2020 survey and in the majority of cases a high level of detail was provided. Therefore, the sales, reserve and distribution figures for those sites included in the survey are all believed to be reasonably robust unless specifically indicated to the contrary. In some instances, the provided data does not detail for sales by product type. In these instances, the return is normally categorised as 'other' or 'general fill' or 'unknown'. It is therefore possible that the constructional fill figures are an overestimate, with other areas being underestimates. The majority of the more significant operating quarries have provided detailed data, on the grades of product, and therefore held to be reliable, and a robust indicator of the types of products consumed by the construction industry

1.8 The decision to include the sales of all slate aggregate products in the aggregate sales analysis from 2008 is continued to give a better understanding of the total aggregate demand on the region. Slate is a significant contributor to the aggregate market in the region and may have the scope to replace, if not displace, other exhausted aggregate supplies. Depending upon the grade of slate, it is used not only in bulk fill applications, but as an uncoated road stone, and is also increasingly used as an aggregate in the production of value added concrete products such as 3.5N and 7N concrete building blocks.

2 NORTH WALES REGIONAL AGGREGATES WORKING PARTY (NWaRAWP)

2.1 The NWaRAWP is one of two such groups in Wales and is complemented by nine similar aggregate working parties in England. The NWaRAWP region covers six unitary authority areas: Anglesey; Gwynedd; Conwy; Denbighshire; Flintshire and Wrexham plus the Snowdonia National Park. Each authority is also the Mineral Planning Authority (MPA). The NWaRAWP is one of eleven Aggregate Working Parties (AWPs) in England and Wales which provide information and advice to the Department for Levelling Up, Housing and Communities (DLUHC). The AWPs are co-ordinated by the National Aggregate Co-ordinating Group (NACG) which provides a forum for debate and discussion about matters relevant to the effective running of the working parties throughout Wales and England and has now been extended to include Scotland.

2.2 A Joint RAWP meeting was convened in July 2019 with the NWaRAWP and SWRAWP which related to the Regional Technical Statement Second Review (RTS 2nd Review). A number of steering group and client group meetings were held between the MPA and industry representatives, Local Authority Officers, Welsh Government, Natural Resources Wales and the appointed contractor compiling the RTS 2nd Review.

2.3 A consultation event was held in Llandudno Junction at which members of the NWaRAWP and interested third parties were present.

Membership

2.4 The membership of the NWaRAWP is drawn from officers of the MPAs, the aggregates extraction industry via the Mineral Products Association (MPA), British Aggregates Association (BAA) and independent companies; the Welsh Government (WG), the British Geological Survey (BGS), representatives of the construction and demolition industry, the marine aggregates producers, The Crown Estate, Natural Resources Wales (NRW) and the South Wales RAWP (SWRAWP). It is not a policy making body. A list of members at the date of publication of the report is provided at Appendix 5).

2.5 In 2020, Andrew Farrow of Flintshire County Council chaired the NWaRAWP and Gary Nancarrow of Flintshire County Council provided the Secretariat Services.

2.6 In terms of the Local Authorities, operator companies and other agency and government representations there was no significant change, but there was some change in the membership within the industry sector on behalf of the member bodies and the number of non attendees compared with previous meetings. Breedon Aggregates has consolidated its position as a major operator within North Wales. D P Williams's Aberdo Quarry in Flintshire has changed ownership to CCP Building Products Ltd. It means the number of operators in the region has declined.

3 AGGREGATE SALES 2009 – 2020 AND SURVEY RESULTS FOR 2020

Sales

3.1 Table 1 shows the total aggregate sales from the region and sub-divided into North West Wales and North East Wales sub-regions. The sub-regional figures are included because, in general terms, both sub-regions exhibit individual characteristics in terms of rock type and market profile. North West Wales traditionally relies mainly on metamorphic (slate waste, reported later in the report) and igneous rock (granite) for crushed rock aggregate. In North East Wales, limestone is the main source of crushed rock of which a high proportion is exported from the region. Sales of slate for non-aggregate purposes amounted to 3.3 million tonnes for the survey period but are not included in the analysis below.

Table 1: Aggregates Sales – North Wales Region 2009 – 2020 (000 tonnes)

	SAND&GRAVEL			CRUSHED ROCK			TOTAL
Year	NW Wales	NE Wales	Total N Wales	NW Wales	NE Wales	Total N Wales	Aggregate Sales
2009	*	*	**631**	919	2,970	**3,889**	4,520
2010	*	*	**696**	1,162	3,219	**4,381**	5,077
2011	*	*	**673**	1,520	2,764	**4,284**	4,957
2012	*	*	**620**	1,122	2,771	**3,893**	4,513
2013	*	*	**663**	1,796	2,256	**4,052**	4,715
2014	*	*	**922**	1,644	2,980	**4,624**	5,546
2015	*	*	**972**	1,737	3,266	**5,003**	5,975
2016	*	*	**756**	1,913	3,009	**4,922**	5,678
2017	*	*	**844**	1,652	2,612	**4,264**	5,108
2018	*	*	**828**	1,945	2,638	**4,583**	5,411
2019	*	*	**988**	1,411	2,672	**4,083**	5,071
2020	*	*	**793**	2,022	3,277	**5,299**	6,092

***NW & NE Wales S&G combined for confidentiality**

3.2 Figures 1 and 2 show the contribution of the sub-regions to crushed rock, and sand and gravel sales respectively.

3.3 Crushed rock sales for 2020 saw a 30% increase on 2019 sales. Sand and gravel sales showed a decrease in sales of 20% when compared with 2019 sales. The effect of the Covid-19 pandemic may have attributed to this decrease in sales between 2019 and 2020.

Figure 1: Sub–Regional Aggregate Sales 2009-2020 - Crushed Rock

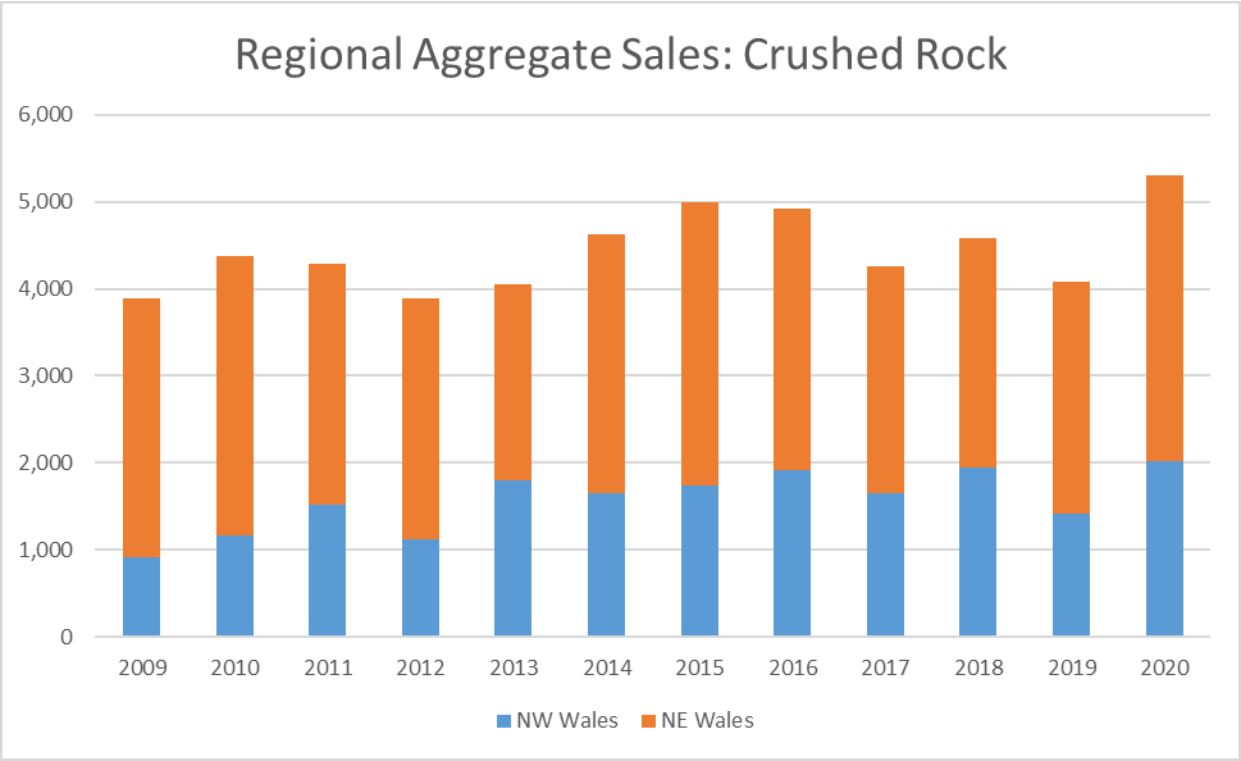
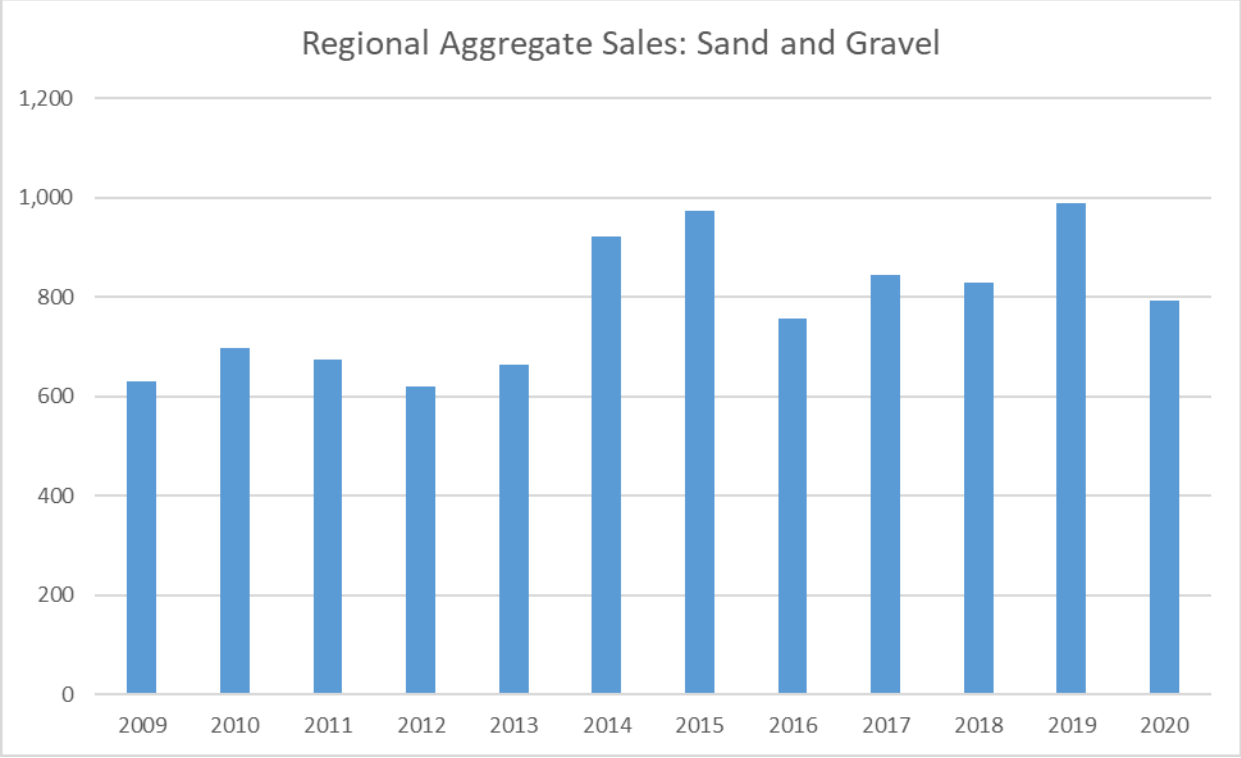


Figure 2: North Wales Aggregate Sales 2009-2020 - Sand and Gravel



Sales by Unitary Authority Area

3.4 In terms of production within MPA areas, which is set out in Tables 2.1 and 2.2, it is not possible to provide an analysis of sand and gravel sales based on MPA areas due to commercial confidentiality. Crushed rock sales analysis suggest that overall sales have improved significantly on 2019 data as shown on Table 2.1.

Table 2.1: Aggregate Sales by Mineral Planning Authority area 2009 – 2020 Crushed Rock

(Tonnes)

Year	Anglesey	Gwynedd	Snowdonia	Conwy	Denbighshire	Flintshire	Wrexham	Total N Wales
2009	267,595	651,845	-	677,544	424,691	1,868,299	-	3,889,974
2010	197,425	965,101	10,264	906,160	649,471	1,753,519	-	4,481,940
2011	230,006	875,812	10,264	844,705	491,250	1,831,813	-	4,283,850
2012	209,897	679,034	10,264	788,443	377,427	1,827,235	-	3,892,300
2013	204,872	680,375	10,264	900,492	277,820	1,977,751	-	4,051,574
2014	229,890	623,570	10,000	738,969	21,671	2,957,876	-	4,581,976
2015	252,390	714,617	10,624	819,900	21,671	3,244,935	-	5,064,137
2016	281,637	743,489	8,000	879,532	86,434	2,922,399	-	4,921,491
2017	285,620	741,898	8,000	616,912	217,476	2,394,317	-	4,264,223
2018	373,000	713,394	8,000	851,294	233,052	2,586,139	-	4,764,879
2019	452,735	201,668	8,000	757,453	138,616	2,533,739	-	4,092,211
2020	919,718	*	-	1,102,099	233,932	3,042,616	-	5,298,365

*Anglesey and Gwynedd combined for confidentiality

Table 2.2: Aggregate Sales by Mineral Planning Authority area 2009 – 2020 Sand & Gravel

(Tonnes)

Year	Anglesey	Gwynedd	Snowdonia	Conwy	Wrexham	Flintshire/ Denbighshire/ Wrexham/ Gwynedd	Total N Wales
2009	-	-	-	-	-	631,244	631,244
2010	-	-	-	-	-	696,273	696,273
2011	-	-	-	-	-	673,513	673,513
2012	-	-	-	-	-	620,374	620,374
2013	-	-	-	-	-	662,085	662,085
2014	-	-	-	-	-	922,222	922,222
2015	-	-	-	-	-	972,098	972,098
2016	-	-	-	-	-	755,937	755,937
2017	-	-	-	-	-	843,907	843,907
2018	-	-	-	-	-	827,554	827,554
2019	-	-	-	-	-	988,430	988,430
2020	-	-	-	-	-	793,013	793,013

3.5 Figures 3 and 4 show the contribution made to aggregates supply by each authority area for crushed rock and sand and gravel. Flintshire remains the main producer of crushed rock, providing about 57% of the regional output. Table 4 does not provide a detailed analysis by local authority area, however Wrexham continues to be the largest producer of sand and gravel, with the other producing areas being Flintshire and Gwynedd. There are no sand and gravel sites in Denbighshire, Conwy, Snowdonia or Anglesey.

Figure 3: Mineral Authority Area Sales 2009-2020 – Crushed Rock (Tonnes)

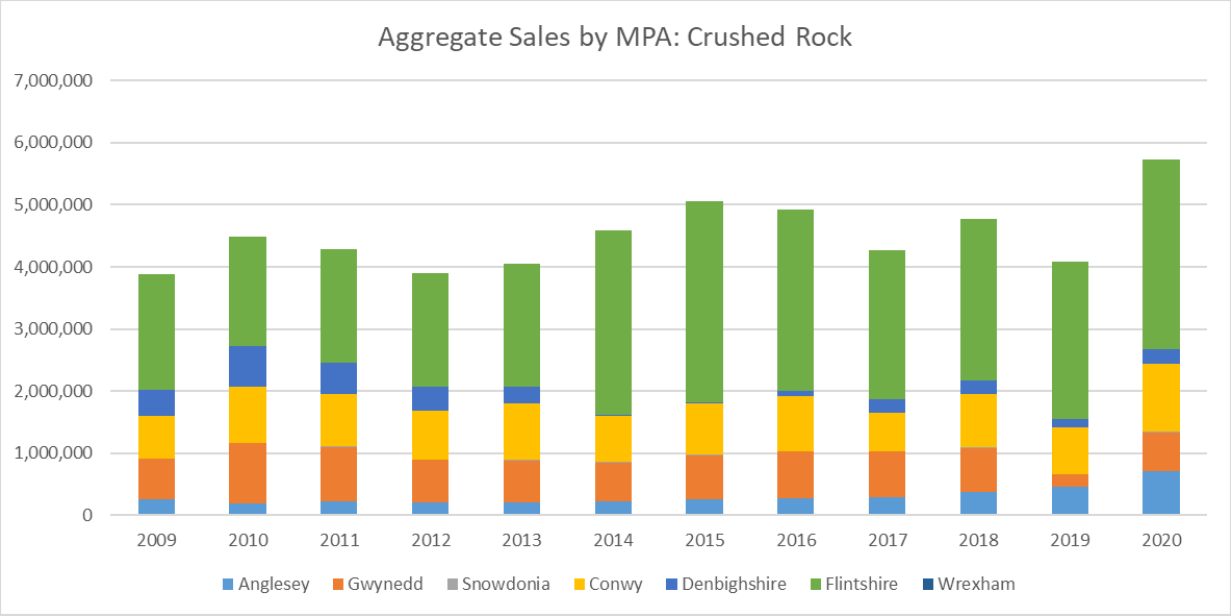
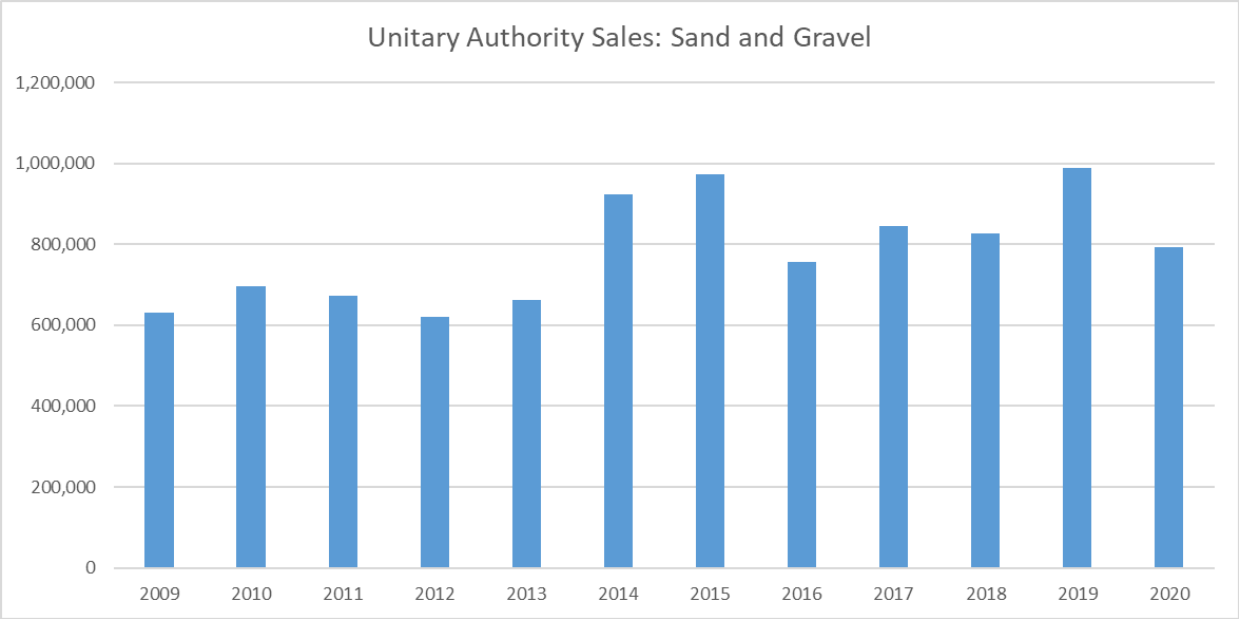


Figure 4: North Wales Sales 2009-2020 - Sand and Gravel (Tonnes)



3.6 Sand and gravel sales on a North Wales basis are illustrated in Figure 4. Overall sales of sand and gravel have declined by 20% compared with 2019 sales. Due to confidentiality, it is no longer possible to report for individual unitary authorities, or to report at a sub-regional level due to the limited number of operational sites and operating companies. Sand and gravel is now produced only in Wrexham, Flintshire and Gwynedd, with the majority of production in Wrexham. This reduces the effectiveness of the survey analysis, and may lead to incorrect assumptions on capacity, need and markets for sand and gravel. Whilst the landbank of permitted reserves is apparently healthy on an all North Wales basis,

the spatial imbalance of permitted reserves masks shortfalls in local authority areas west of Wrexham. Haulage costs are a barrier in supplying sand and gravel produced in Wrexham and Flintshire to the west of the region, where their main markets are located within the east of the region and in Cheshire/north west of England.

3.7 The BGS Mineral Resources Map of Wales, has identified a wide range of sediments which have potential as sources of natural aggregate. Within NW Wales, more specific potential resource blocks have been identified in more detailed studies carried out for the National Assembly for Wales by the University of Liverpool in 1988 and 2003. These are not necessarily the only potential worthwhile resources, but they are the most rigorously assessed.

3.8 The Sand and Gravel Resources of North West Wales report was commissioned by the National Assembly for Wales to evaluate the location and volume of potentially workable resources of land-based, fine-grained mineral aggregate in the area of the Mineral Planning Authorities of Anglesey County Council, Conwy County Borough Council, Cyngor Gwynedd and the Snowdonia National Park Authority (now known as Eryri); to examine the commercial potential of the resources; to identify the environmental constraints on future exploitation and to make recommendations on the most appropriate means of safeguarding the resources. From a review of existing data, ten areas were identified which were considered likely to yield potential mineral.

3.9 Altogether, some 530 million tonnes of potential mineral were identified, divided into 270 million tonnes of sand and 260 millions tonnes of gravel. At the county level, 92% of potential mineral occurs in Gwynedd, with Conwy and Anglesey together providing less than 8 % and the National Park area virtually none. At the local level the greatest concentration of reserves, more than 75 % between them, occur in only three areas: Cors Geirch north of Pwllhelli; south of Nefyn and Penygroes, all in Gwynedd.

3.10 In North Wales, very little marine-dredged sand & gravel is used. However the dredgings landed at Porth Penrhyn, Bangor have played an important role in the supply of soft building or mortar sand for Gwynedd and Anglesey for many years, given the course nature of the sand deposits in the northern Llyn area.

Aggregate End Uses

3.11 Tables 3.1, 3.3, 3.5, and 4 set out the end uses of the primary aggregate sales for limestone, granite and sand and gravel. In the case of crushed rock (which includes limestone and granite), a full breakdown of end uses was provided by the majority of operators. Sales with an unknown end use have been combined with sales for other constructional uses. With regard to sand and gravel sales, a complete breakdown of end uses was also provided.

Crushed Rock - Limestone

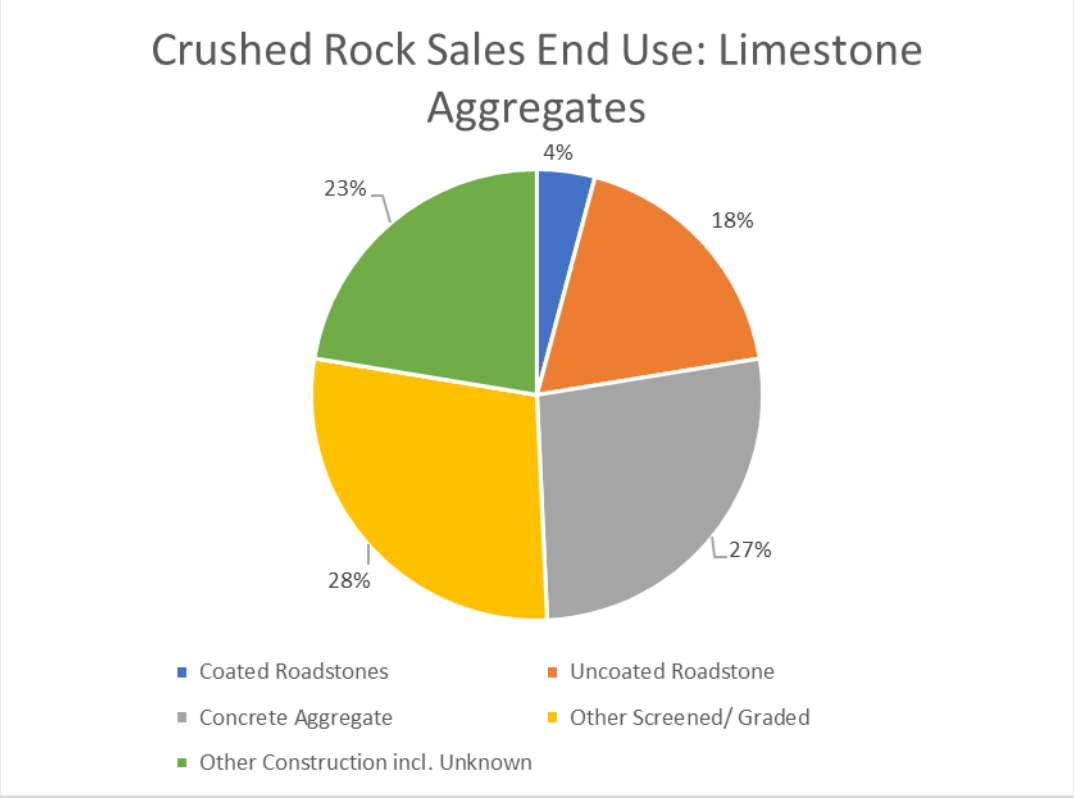
3.12 Table 3.1 and Figure 5 illustrate limestone aggregate end use. Figure 5 illustrates that Roadstone (coated and uncoated) accounts for 22% of limestone sales, concrete aggregate 27% of limestone sales and graded screened aggregate accounting for 28% of sales. Other construction including unknown uses accounted for 23% of sales.

Table 3.1: Crushed Rock Sales, Limestone: N Wales 2020

All figures tonnes

Product	TOTAL N WALES
Coated Roadstones	179,109
Uncoated Roadstone	789,597
Concrete Aggregate	1,159,841
Other Screened/ Graded	1,223,535
Rail Ballast	0
Other Construction incl. Unknown	967,817
Total Aggregates	4,319,899

Figure 5: Crushed Rock Sales 2020 End Use: Limestone



3.14 Table 3.2 shows market fluctuations of limestone sales between 2019 and 2020, showing a decline in coated and uncoated roadstone, but a significant increase in sales for other construction uses. The Covid-19 pandemic may be a contributing factor of these sales figures.

Table 3.2: Market Fluctuations of Limestone sales between 2019-2020 (All figures in Tonnes)

Product	2019	2020	Market Fluctuation
Coated Roadstones	268,216	179,109	-33%
Uncoated Roadstone	1,027,027	789,597	-23%
Concrete Aggregate	723,491	1,159,841	60%
Other Screened/ Graded	927,069	1,223,535	32%
Rail Ballast	0	0	0%
Other Construction incl. Unknown	433,639	967,817	123%
Total Aggregates	3,379,442	4,319,899	28%

3.15 Table 3.3 and Figure 6 illustrate granite crushed rock sales for 2020. Roadstone accounted for 49% of sales. Other construction including unknown uses accounted for 32% of sales, concrete aggregate accounted for 8% of sales, and graded screened aggregate 11%.

Table 3.3: Crushed Rock Sales, Granite: N Wales 2020 (All figures in tonnes)

Product	TOTAL NW WALES
Coated Roadstones	367,545
Uncoated Roadstone	112,020
Concrete Aggregate	79,689
Other Screened/ Graded	105,529
Rail Ballast	881
Other Construction incl. Unknown	312,802
Total Aggregates	978,466

Figure 6: Crushed Rock Sales 2020 End Use: Granite

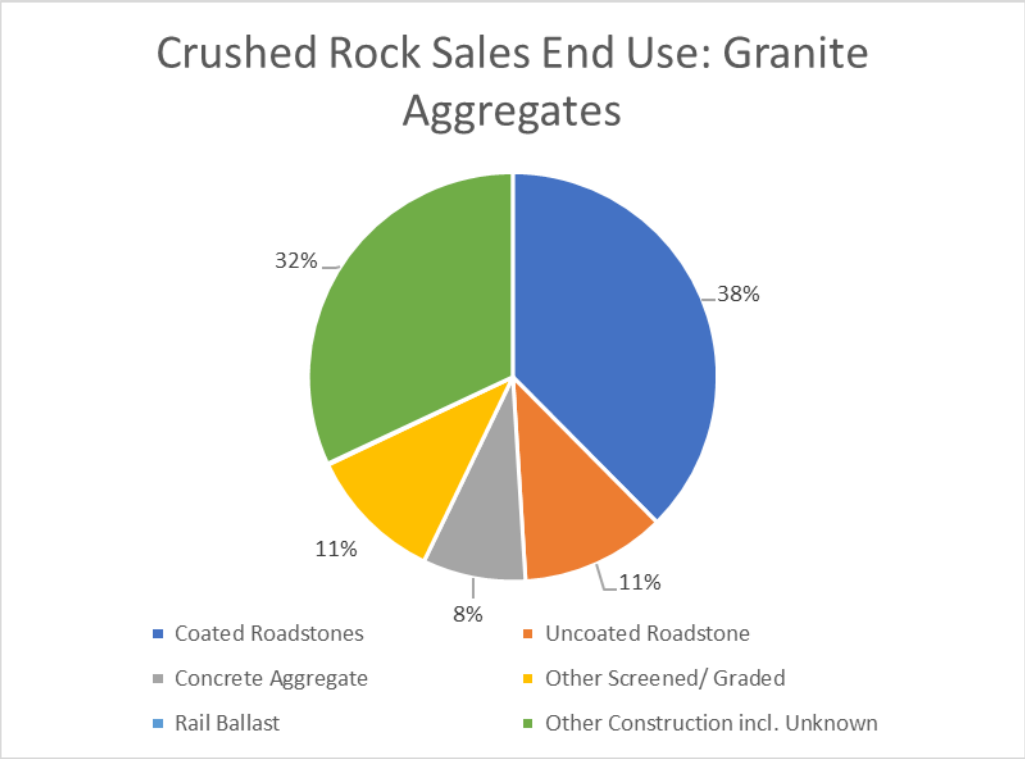


Table 3.4: Market Fluctuations of Granite sales between 2019-2020 (Tonnes)

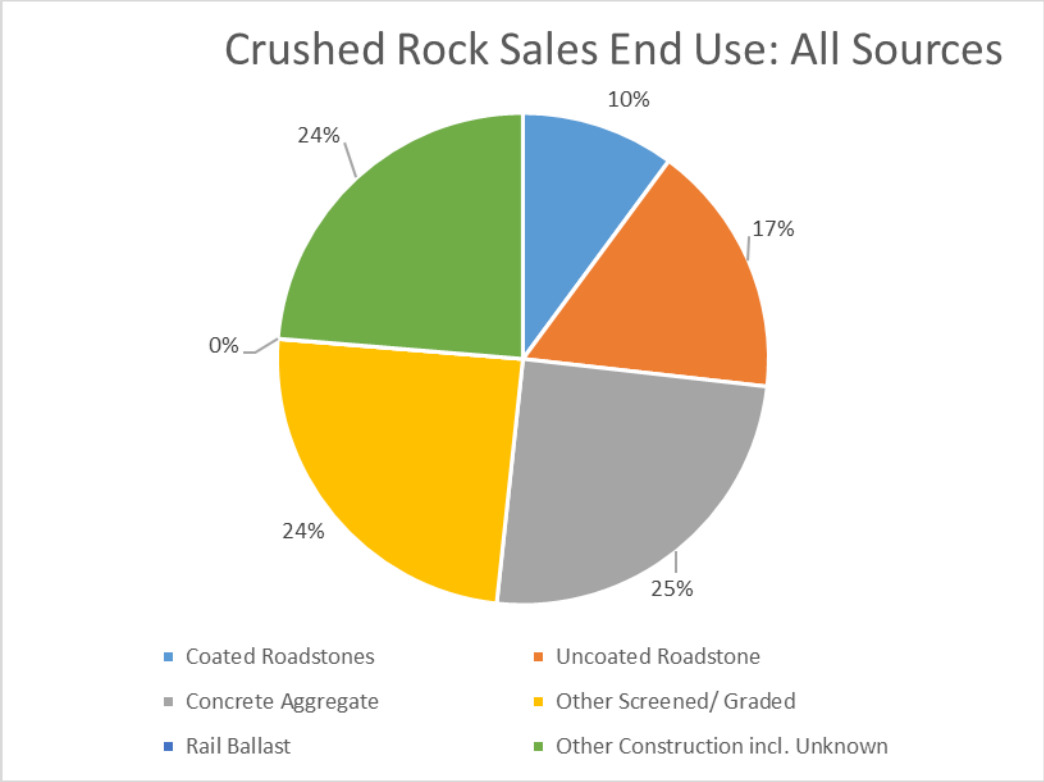
Product	2019	2020	Market Fluctuation
Coated Roadstones	383,325	367,545	-4%
Uncoated Roadstone	43,584	112,020	157%
Concrete Aggregate	36,064	79,689	121%
Other Screened/ Graded	93,791	105,529	13%
Rail Ballast	8,037	881	-89%
Other Construction incl. Unknown	139,968	312,802	123%
Total Aggregates	704,769	978,466	39%

3.16 Table 3.5 and Figure 7 illustrate total crushed rock sales (limestone and granite). Total crushed rock aggregate sales of 27% was used as roadstone (17% uncoated, and 10% coated). Aggregate for concrete accounted for 25% of sales. Other screened graded stone accounted for 24%. Other constructional uses (including unknown uses) accounted for 24% of sales.

Table 3.5: Crushed Rock Sales, Total Aggregate: N Wales 2020
(All figures are in tonnes)

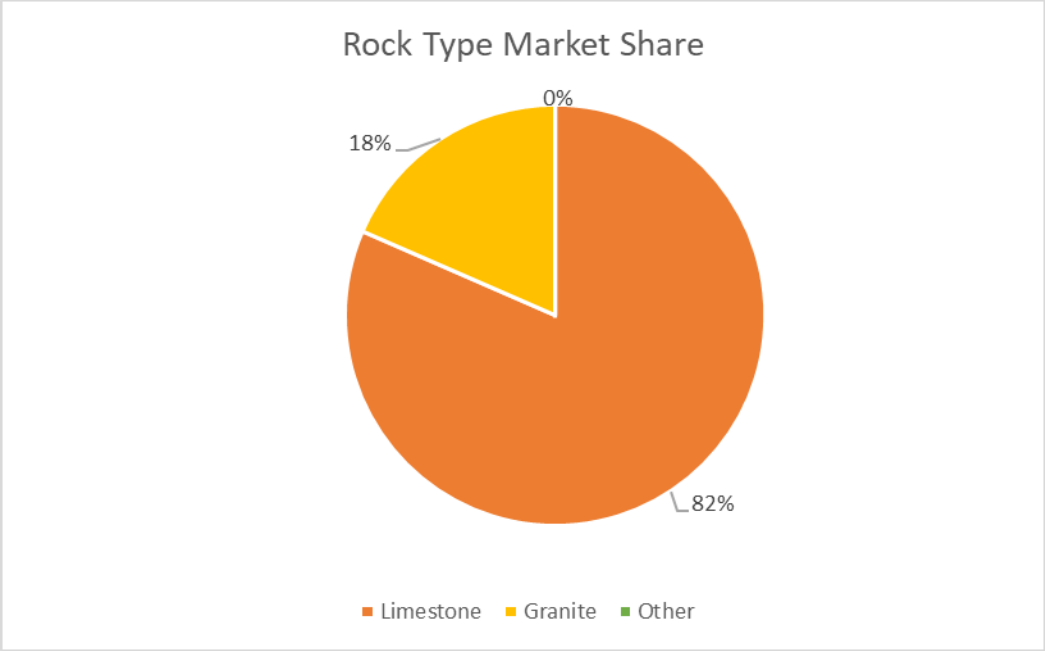
Product	TOTAL
Coated Roadstones	546,654
Uncoated Roadstone	901,617
Concrete Aggregate	1,347,030
Other Screened/ Graded	1,329,064
Rail Ballast	881
Other Construction incl. Unknown	1,280,619
Total Aggregates	5,298,365

Figure 7: Crushed Rock Sales 2020 End Use: Total Crushed Rock



3.17 Figure 8 illustrates the rock type market share. Limestone is the single biggest contributor, at 82%, with granite accounting for 18% of sales in 2020.

Figure 8: Rock Type Market Share 2020



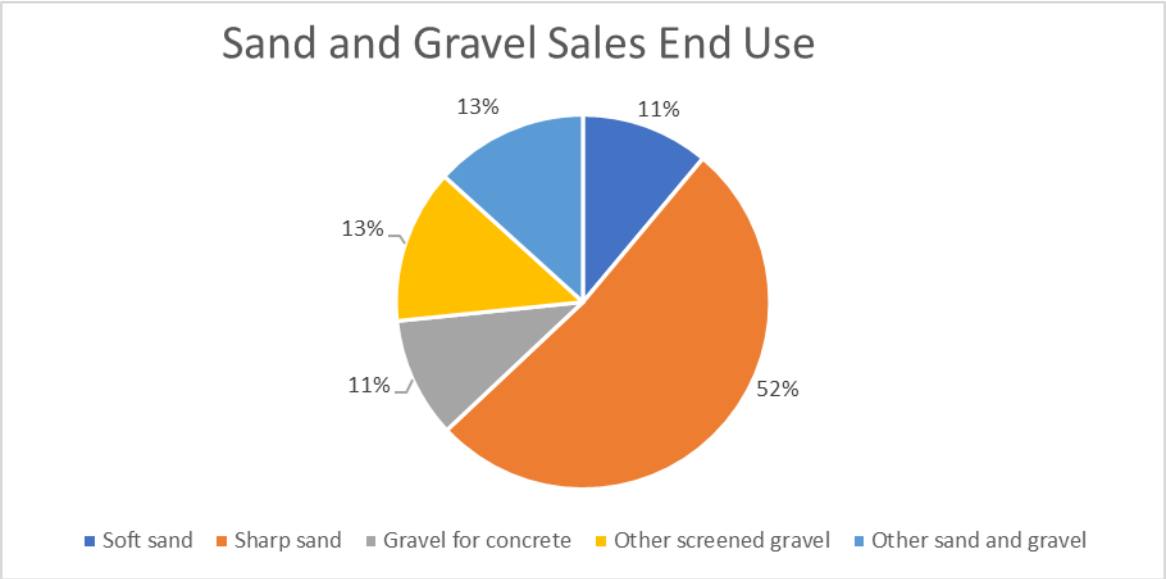
Sand and Gravel

3.18 Table 4 and Figure 9 illustrate sand and gravel sales. Sales of sand and gravel used for aggregate in 2020 have decreased by 20% compared with 2019 sales. 52% of sales were sharp (concreting) sand and 11% soft sand. Gravel for concrete is 10% of sales. 13% of the remaining supply comprised unspecified sand and gravel, and 13% other graded screened gravels. A very small amount of sand and gravel, less than 1%, was used for non-aggregate purposes.

Table 4: Sand and Gravel Sales: N Wales 2020
(All figures are in tonnes)

	Soft sand	Sharp sand	Gravel for concrete	Other screened gravel	Other sand and gravel	Total aggregate
Total	87,900	411,693	82,354	105,656	105,410	793,013

Figure 9: Sand and Gravel End Use 2020



Regional Sales Movements

3.19 The four/five yearly Aggregate Mineral survey (AM) data included information on regional export and import movements by destination area. The wider picture was presented in the AM report published by BGS in 2019. Data on the regional export of mineral sourced within North Wales Regional movements will be collected as part of the AM2023 Survey and it is proposed to continue to collect export data in future annual surveys. In North Wales the predominant mode of transport is by road, mainly via the A55(T) expressway and A494(T) onward to the M56 and M53 motorways. There are minor levels of land won aggregate exports by ship from those quarries which have a landing wharf and by rail from those quarries which have rail loading facilities.

3.20 North Wales is a net exporter of aggregate with a total of 2.31 Mt exported compared with 1.09 Mt imported as illustrated by the 2019 data, which was the date of the last AM published by the British Geological Survey.

Table 5: 2019 Aggregate Mineral Survey Data (BGS) *Note data is in 000 tonnes

Exports			Imports		
Sand & Gravel	Crushed Rock	Total	Sand & Gravel	Crushed Rock	Total

473	1839	**2312**	40	69	**109**

4 RESERVES AND LANDBANKS

4.1 Table 6 below shows the permitted reserves of crushed rock in the North Wales Region at the end of 2020. The reserves are shown divided into those in active sites and those in inactive sites. The reduction in the number of quarries has meant that there has been an increased need to combine Unitary Authorities in the collation. Table 6 shows that 93% of permitted reserves of crushed rock is contained in active sites. Slate reserves also include slate used for non-aggregate end uses.

Table 6: Crushed Rock Reserves (000s tonnes)

	Active	Inactive	Total
Limestone			
NW Wales	22,749	200	22,949
Denbighshire	15,721	4,476	20,197
Flintshire	59,238	10,000	69,238
Total Limestone	97,708	14,676	112,384
Granite			
N Wales total	110,126	0	110,126
Slate			
N Wales total	1,707	0	1,707
N Wales total rock	**209,541**	**14,676**	**224,217**

4.2 Table 7 indicates the permitted reserves of sand and gravel in the North Wales Region at the end of 2020. The material is shown divided into active sites and inactive sites. The table shows that the majority (99%) of the calculated permitted reserve of sand and gravel is contained in active sites.

Table 7: Sand and Gravel Reserves (000 tonnes)

	Active	Inactive	Total
N Wales Total	12,365	168	**12,533**
Total Sand & Gravel	**12,365**	**168**	**12,533**

4.3 Table 8 provides details of the aggregate reserves and landbank currently available and does not include material designated for industrial use, for example cement manufacture, or rock reserves in dormant sites. The analysis of landbank is based on permitted reserves divided by the average of the last 3 years sales. It should be noted that the RTS second review takes the higher of a 3 or 10 year average (as outlined in Section 7.4 below). Where possible, reserves and

landbanks are shown for each MPA and are also grouped into those authorities falling within North East and North West Wales in order to allow comparison with earlier reports.

4.4 Additional reserves held in dormant sites potentially add to the amount of material available for extraction, however, although they are consented, they cannot be worked without new conditions being approved, and as such are not included in the landbank.

4.5 Notwithstanding the effect on the collation of having to reconfigure the allocation of sales for reasons of confidentiality, it is clear from the landbank figures that crushed rock reserves throughout most of North Wales are in excess of 20 years in all areas which is above the 10 year minimum required by Planning Policy Wales (PPW) and MTAN1. Therefore, the land bank for crushed rock permitted reserves is above which it is deemed that further provision would not be appropriate in most circumstances. However, it should be noted that a 20-year landbank would fall short of the minimum requirement of 25 years for crushed rock in the RTS second review.

4.6 In terms of sand and gravel, the landbank is 18 years in North East Wales, and stands at 8 years in North West Wales, both are above the 7 year minimum required by PPW and MTAN1. However, whilst this is in compliance with PPW and MTAN1 it should be noted that a 18 year landbank would fall short of the minimum requirement of 22 years for sand and gravel sites in the RTS second review.

Table 8: Reserves and Landbanks for Aggregates North Wales 3 Year Sales Average

Reserves expressed as million tonnes.

	2018 Aggregate sales	2019 Aggregate sales	2020 Aggregate sales	Average sales	Permitted Reserves at 31/12/2020	Landbank (years)
Limestone						
NW Wales	*	0.70	1.04	0.87	22.9	26
Denbighshire	0.20	0.13	0.23	0.19	20.1	108
Flintshire	2.40	2.53	3.04	2.66	69.2	26
Total North Wales	2.60	3.36	4.31	3.42	112.2	33
Granite						
Total North Wales	1.41	0.70	0.97	1.03	110.1	107
Slate						
Total North Wales	0.64	0.24	0.43	0.44	1.7	4
Sand & Gravel						
Total North Wales	0.83	0.98	0.79	0.87	13.0	15
Total Aggregate North Wales	5.49	5.28	6.50	5.76	237.03	41

*Data included in granite totals

4.8 The reserves for crushed rock show an increase on the levels in 2018. This is entirely accountable by the re-opening of inactive sites. In the longer term the landbank is expected to decrease when sales improve in response to improved market conditions. There are no permitted reserves of crushed rock in Wrexham, and there is little remaining consented crushed rock in Snowdonia.

4.9 The sand and gravel landbank remains at a critical position in NW Wales. BGS mapping has indicated significant high-quality resources, albeit that much is within the Llyn Area of Outstanding Natural Beauty. Any increase in sales will further decline the landbank in NW Wales. There are no operational sand and gravel sites of significance within Anglesey or Snowdonia National Park.

4.10 The landbank is apparently healthy in NE Wales, but again, sites and capacity are not evenly distributed. The majority of the permitted reserves are located in Wrexham, and there are no permitted reserves in Denbighshire or Conwy. This is further complicated by the distribution of types of sand and gravel, and the issue should be explored under the 3rd RTS review to redress this regional imbalance.

5 SECONDARY & RECYCLED AGGREGATES

5.1 In addition to primary aggregates, other materials are important in contributing towards meeting demand in the North Wales Region and in terms of policy, have priority over primary aggregates. The most significant material in this category in the region is slate which is worked both as a by-product of roofing slate production and as a secondary material from waste tips. Slate waste especially has the potential to be used instead of primary extracted material in many applications or to supplement supply of primary material.

5.2 Aggregates derived by recycling construction wastes comprise another important group of materials and are generally abbreviated to CD+EW (construction, demolition and excavation wastes). Clay and shale are also worked intermittently in the region for aggregate purposes (engineered fill) and, depending upon specification, substitute for traditional primary aggregates. Unlike South Wales, there are no arisings (or stockpiles) of pulverised fuel ash (pfa) or furnace slag available in the region and there are only very limited opportunities if any, for the removal of former colliery spoil heaps for use as fill. The only remaining colliery spoil is in Wrexham at Llay and Bersham. Material from Llay has fed into cement manufacturing in the past however, this site has been mothballed for many years.

Slate

5.3 In North Wales the main source of secondary aggregates is slate, and slate waste. Slate has established a significant contribution for use as a secondary aggregate and is capable of meeting specification standards for construction and highways projects. The majority of the material is produced, recovered and

recycled in Gwynedd with a small amount is derived from sites within Denbighshire and Snowdonia. However, the World Heritage status recently bestowed on the Gwynedd Slate Mining area may impact upon potential exploitation of this valuable resource in the future.

5.4 The Slate Landscape of Northwest Wales World Heritage Site Supplementary Planning Guidance Paragraph 2.5 states; *"The continuation of the slate extraction industry and associated activities as a significant contributor to the economy of Northwest Wales, and ensuring the continued supply of slate materials for the future."*

5.5 The Slate Landscape of Northwest Wales Management Plan paragraph 3.1 Vision and objectives states; *"The continuation of the slate extraction industry and associated activities as a significant contributor to the economy of Northwest Wales, and ensuring the continued supply of slate materials for the future."*

5.6 Principle 7.1 states: *"Primary mineral extraction does not take place within the boundary of the proposed World Heritage Site or within the boundary of the Snowdonia National Park Authority."* Principle 7.2 states: *"Primary mineral extraction and secondary working outside the proposed World Heritage Site will be managed through the existing mineral planning process."*

5.7 As the World Heritage Status was designated in 2021, it is not clear yet if the designation has had an impact on the supply of slate materials. Future reports will highlight any trends that may be attributed to this designation.

5.8 Table 9 below shows the amount of slate waste produced in 2019 and in 2020. The table shows an 18% increase from 2019 to 2020.

Table 9: Slate Waste Produced as a Secondary Aggregate 2019 and 2020

Product	2019	2020	Difference
Slate Waste	244,627	287,875	18%

Construction and Demolition Waste

5.9 No survey of this material was carried out for 2020. However, it is believed anecdotally that construction and demolition waste was being produced and although some of this material did go to landfill sites in the region, mainly for engineering purposes, such as capping and road construction much of the material remained on site and it is reasonable to assume some was used as aggregate substitute.

5.10 Natural Resources Wales has undertaken ad hoc National Construction & Demolition waste surveys with the most recent estimations being for 2019 (Natural Resources Wales / Construction and demolition waste survey for 2019). It is anticipated that the UK Digital waste tracking project will provide an opportunity to facilitate improvements in waste data capture and analysis on the arisings of Construction & Demolition waste from start to finish in the future.

5.7 Construction and Demolition recycling rates are a direct consequence of construction activity, regeneration and the economy. When the economy is increasing, there is a greater level of construction and demolition and therefore the feedstock of construction and demolition waste increases.

5.8 It is considered that the effect of the Covid-19 Pandemic on the construction industry will have impacted on the quantities of Construction & Demolition waste arisings and how they were managed in 2020, causing potential anomalies compared to previous years.

5.11 Natural Resources Wales produce a SoNaRR 2020 Waste Report[1] which assesses the changing landscape of waste generation and management in Wales over the last fifteen years. It highlights the issues and pressures associated with current waste practices, whilst identifying opportunities for future sustainability.

5.12 Future reporting will try and establish the extent of contribution the construction and demolition waste has on meeting demand for lower grade uses and how it could be fully exploited to reduce pressure on primary resources and their use to supply low grade uses.

6 RESEARCH

6.1 A programme was established by the Welsh Government in 2001 to provide funding for minerals and waste planning related research projects. The research programme aims to support the development of policy and Technical Advice Notes which will assist in achieving the Welsh Government's goals of sustainable development, economic growth, tackling social disadvantage and promoting equal opportunities. The research funded by the programme is intended to provide sound evidence-based foundation for future policy development.

6.2 The programme is currently funding a five-year programme to complete modern geological mapping to cover Wales by the British Geological Survey (BGS). This initially, concentrated on South Wales migrating northwards into Mid Wales and in 2008/9 continued into North Wales. The Mineral Resource Map for Wales was formally launched in 2010, though earlier versions had been made available to planning authorities at an earlier date.

6.3 The BGS has produced mineral safeguarding maps and guidance for Wales, to enable Unitary Authorities to prepare LDP safeguarding policies.

[1] https://naturalresources.wales/evidence-and-data/research-and-reports/state-of-natural-resources-report-sonarr-for-wales-2020/sonarr2020-our-assessment/cross-cutting-themes/waste/?lang=en

7 REGIONAL TECHNICAL STATEMENT (RTS)

7.1 The Regional Technical Statement (RTS) is a requirement of Minerals Technical Advice Note 1: Aggregates (MTAN1) which was issued by the Welsh Government in March 2004.

7.2 MTAN1 sets an overarching objective which seeks to ensure a sustainably managed supply of aggregates (which are essential for construction), striking the best balance between environmental, economic and social considerations. The RTS provides a strategic basis for LDPs in the region.

7.3 The first Regional Technical Statement for the area covered by the NWaRAWP was published in October 2008. The RTS 1st Review was published in August 2014 and the RTS 2nd Review was published in September 2020.

7.4 The RTS2 recommends that the future quantities of aggregate which need to be provided for from each Local Planning Authority area (apportionment) is essentially based on the higher of the 3-year sales average and the 10-year average of sales, refined as necessary to take account of housing completions and other factors of sustainability. The annualised apportionment is applied over 25 years for crushed rock (LDP period plus 10 years) and 22 years for sand and gravel (LDP period plus 7 years) in order to calculate the minimum required provision within LDPs.

7.5 The annual crushed rock apportionment contained within Table 5.2 of the RTS2 is provided in Table 10 below together with the sales figure for 2020. The purpose of this comparison is to assess whether there is a danger of under-provision within any Local Authority area. Sales exceeding the annualised sales figure is merely an early warning that aggregate reserves are being used more quickly than anticipated in the RTS2 and there may be a danger of under-provision within the Local Development Plan period. Further detailed assessment would be required in each case.

7.6 Sales in 2020 were well below the annualised apportionment figures, particularly in the North West Wales region. In the context of the North Wales as a whole, sales were approximately 79% of the total annualised apportionment required within the region.

7.7 RTS2 recommended minimum crushed rock allocations necessary in Flintshire amount to 35.928 mt. The adopted Flintshire Local Development Plan has provided for two crushed rock allocations amounting to 24 mt. A subsequent planning permission has now been granted at Hendre Quarry under planning reference 062110 granted 17/12/2021 which would reduce the apportionment shortfall to just 3.062 mt.

Table 10: Crushed Rock Aggregate Sales in 2020 by Mineral Planning Authority (million Tonnes) in comparison to the RTS2 annualised apportionments

Region	Mineral Planning Authority	Crushed Rock Aggregate Sales 2020	RTS2 Annualised Apportionment
North East Wales	Denbighshire	3.276	0.860
	Flintshire		3.359
	Wrexham		0.00
North West Wales	Conwy + Snowdonia National Park	1.991	1.201
	Gwynedd		0.955
	Isle of Anglesey		0.321
North Wales Total		**5.267**	**6.695**

7.8 The annual sand and gravel apportionment contained within the RTS2 are provided in Table 11 together with the sales figure for 2020.

Table 11: Sand and Gravel Sales in 2020 by Mineral Planning Authority (million Tonnes) in comparison to the RTS2 annualised apportionments

Region	Mineral Planning Authority	Sand and Gravel Sales 2020	RTS2 Annualised Apportionment
North Wales	Denbighshire	0.793	0.00
	Flintshire		0.223
	Wrexham		0.646
	Conwy + Snowdonia NP		0.00
	Gwynedd		0.174
	Isle of Anglesey		0.00
North Wales Total		**0.793**	**1.044**

7.9 In the North Wales context, as a whole, sales of sand and gravel in 2020 were approximately 76% of the total annualised apportionment required within the region.

7.10 RTS2 recommended minimum sand and gravel allocations necessary in Flintshire only amounting to 3.543 mt, and in Wrexham 1.565 mt. The adopted Flintshire LDP provides for allocations of sand and gravel amounting to 1.4 mt with a marginal shortfall of 2.143 mt. Coupled with the apportionment for Wrexham of 1.565 mt, the North-East Wales authorities have agreed to meet this combined sub-regional apportionment collaboratively by way of either an extension of an existing sand and gravel site, or the identification of a new site in the sub-region. The Statement of Sub-regional Collaboration (SSRC) for North-East Wales, endorsed by the respective North East Wales Local Authorities confirms that the authorities of the North-East Wales sub-region have agreed that any shortfall would considered as a sub-regional apportionment shortfall and this shortfall would be met by either; extensions to existing sand and gravel quarry sites in the sub-region, or a new sand and gravel quarry site within the sub-region.

7.11 It should be noted that the SSRC for North-East Wales was drafted and endorsed in May 2021 which is not within this RAWP reporting period. During the production of the SSRC, there was limited consultation as part of the LDP process. However, it was not possible to consult the North Wales RAWP due to the time constraints involved and the fact that the North Wales RAWP did not meet during this time.

7.12 RTS2 recommended minimum sand and gravel allocations necessary in Gwynedd amounting to 2.659 mt. This allocation is yet to be addressed by the LPA but the LDP will be reviewed in the coming years when the LDP is replaced.

7.13 The RTS2 notes that the apportionment recommendations do not take fully into account all factors that may be material to the ensuring of an adequate supply of aggregates obtained from appropriately located sources. Such factors include:-

- The technical capability of one type of material to interchange for another.
- The relative environmental cost of substitution of one type of material by another.
- The relative environmental effects of changing patterns of supply.
- Whether adequate production capacity can be maintained to meet the required supply.

7.14 The RTS2 also states that where it is justified by new evidence, it is open for individual Local Planning Authorities to depart from the apportionment and allocation figures recommended in the RTS. In doing so however, a Local Planning Authority would need to demonstrate that their intended departure would not undermine the overall strategy provided by the RTS itself.

Appendix 1: Active Sites Included in the 2020 Survey

Unitary Authority	Site	Material	Grid Reference
ANGLESEY	Gwyndy	Granite	395795
	Hengae	Granite	440687
	Rhuddlan Bach	Limestone	486806
	Nant Newydd	Limestone	481811
	Bryn Engan	Limestone	507814
	Cae'r Glaw	Granite	
	Aber Strectrt	Limestone	548573
	Bwlch Gwyn	Granite	003 866
GWYNEDD	Garth (Minfordd)	Igneous	259339
	Nanhoron	Igneous	-
	Trefor/Yr Eifl No 2	Igneous	-
	Fferm Graianog	Sand & Gravel	245349
	Port Penrhyn, Bangor	Sand (Marine)	259373
	Penrhyn	Slate	262365
	Oakeley	Slate	269347
	Pen yr Orsedd	Slate	250354
	Llechwedd	Slate Waste	-
	Manod & Graig Ddu	Slate Waste	-
SNOWDONIA	Arthog	Slate Waste	-
CONWY	St. George	Limestone	970373
	Raynes	Limestone	890780
	Penmaenmawr	Granite	702755
DENBIGHSHIRE	Graig (Llanarmon)	Limestone	320356
	Graig Denbigh	Limestone	305366
	Berwyn Slate Quarry (Clogau)	Slate	318500
	Moel y Faen	Slate Waste	319348
FLINTSHIRE	Pant	Limestone	319730
	Pant y Pwll Dwr	Limestone	319732
	Aberdo/Bryn Mawr	Limestone	318372
	Hendre	Limestone	319368
	Cefn Mawr	Limestone	320363
	Maes Mynan	Sand & Gravel	311372
	Fron Haul	Sand & Gravel	315370
WREXHAM	Borras	Sand & Gravel	364524
	Ballswood	Sand & Gravel	350563
	Hafod	Clay/Sand & Gravel	

Appendix 2: Dormant/Inactive Sites included in 2020 Survey

Unitary Authority	Site	Material	Grid Reference
ANGLESEY	Tywyn Trewan	Sand/Ash	321747
	Creigiau	Sandstone	488860
GWYNEDD	Cae Efalwyd	Sand & Gravel	246352
	Tan y Bryn	Sand & Gravel	246352
	Gro Sarnau	Sand & Gravel	-
	Pentre Uchaf	Sand and Gravel	-
SNOWDONIA	Tonfanau	Granite	-
CONWY	Plas Gwilym	Limestone	880780
DENBIGHSHIRE	Burley Hill	Limestone	320360
	Maes y Droell	Silica Rock	322356
FLINTSHIRE	Grange	Limestone	316375
	Ddol Uchaf	Sand & Gravel	315371
WREXHAM	Llay	Clay/Shale	-

Appendix 3: North Wales Aggregates Working Party Publications

Publication	Date	Status
Interim Report	November 1976	Out of print
Regional Commentary Part 1	June 1981	Out of print
Regional Commentary Part 2	July 1981	Out of print
Report on AM85 Survey	June 1987	Out of print
Regional Commentary 1988	October 1988	Out of print
First Annual Report 1989		Out of print
Report on AM89 Survey	April 1991	Out of print
Annual Report 1990	June 1991	Out of print
Regional Commentary	February 1992	Out of print
Annual Report 1991	June 1992	Out of print
Annual Report 1992	July 1993	Out of print
Annual Report 1993	July 1994	Out of print
Report on AM93 Survey		Out of print
Guidelines for Aggregates Provision	March 1995	Out of print
Annual Report 1994		Out of print
Annual Report 1995		Out of print
Annual Report and Statistics 1996-2000 (with revised 1995 data) (single volume)		Out of print
Annual Report 2001	March 2002	Free
Annual Report 2002	September 2003	Free
Annual Report 2003	September 2004	Free
Annual Report 2004	September 2006	Free
Annual Report 2005	May 2007	Free
Annual Report 2006	Dec 2007	Free
		Free
Regional Technical Statement	Feb 2008	Free
Annual Report 2007	Dec 2008	Free
Annual Report 2008	Nov 2009	Free
Annual Report 2009	Oct 2012	Free
Annual Report 2010	Oct 2012	Free
Annual Report 2011	Nov 2012	Free
Annual Report 2012	Dec 2013	Free
Regional Technical Statement 2010	July 2013	Free
Annual Report 2013	Dec 2014	Free
Annual Report 2014	Nov 2015	Free

Regional Technical Statement 2014		Free
Annual Report 2015		Free
Annual Report 2016		Free
Annual Report 2017	March 2019	Free
Regional Technical Statement 2nd Review		Free

* This report is free to download can be viewed on the North Wales RAWP website i.e. www.nwrawp-wales.org.uk However, a charge will be made if a hard copy is requested or for out of print publications; this will reflect the price of copying, administration and postal charges.

Appendix 4: Glossary and Acronyms

Active	A quarry with a current planning permission producing stone in 2020.
Aggregates	Sand, gravel, crushed rock and recycled or secondary materials used in the construction industry eg. for purposes such as the making of concrete, mortar, asphalt or for road stone, drainage or bulk filling materials.
British Aggregates Association (BAA)	An association formed in 1999 representing over 50 mainly independent and privately owned quarry companies in the UK.
DLUHC	Department for Levelling Up, Housing & Communities
Construction Demolition and Excavation Waste (CD&EW)	Material arising from the demolition of buildings, it can include material that after processing, for example by crushing and sizing, can be re-used as aggregate. (previously referred to as C&DW – excavation waste is now usually included)
Coated Stone	Aggregate coated with bitumen for road construction.
Crushed Rock	Stone derived from a solid rock mass, for example limestone, by quarrying and processed, usually by mechanical breaking, for use in construction.
Dormant	A quarry with a valid planning permission which cannot be lawfully worked or resume working until a scheme of modern planning conditions has been submitted to and approved by a Mineral Planning Authority.
Export	The transport of aggregate from the North Wales region to other areas, including to other parts of Wales as well as England.
Fill	Aggregate used to fill large voids preparatory to construction, for example for foundations or to form embankments during road construction.
Inactive site	Sites with planning permission which are not operational but which can be reactivated.
Igneous Rock	Solidified molten rock, e.g. granite, dolerite
Land bank	A stock of planning permissions for the winning and working of minerals, usually expressed in years based on recent averaged outputs. Normally reserves in dormant sites are excluded from the calculation.
Limestone	A sedimentary rock consisting mainly of calcium carbonate.
Mothballed site	A quarry which is temporarily not working for operational and economic reasons but which is intended to become operational

	again.
MPA	Minerals Products Association, formerly Quarry Products Association. A trade association which represents over 80 quarry companies which, together, account for 90% of the supply of aggregate materials in the UK.
NRW	Natural Resources Wales
NWaRAWP	North Wales Aggregates Working Party (nb when in some cases abbreviated to NWRAWP, this can be confused with the North West AWP in England)
Permitted Reserves	Areas and tonnages of rock with a valid planning permission for extraction which have been defined by survey and or estimation.
Primary aggregate	Naturally occurring (as opposed to secondary or recycled material) rock, sand and gravel suitable for construction aggregate purposes.
Rail Ballast	Aggregate used to support railway track.
Recycled Aggregates	Aggregates previously used in construction, rail ballast, pipe trench excavation etc, recycled for further aggregate use.
Resource	Deposits of rock or sand and gravel which are likely to be suitable for working for aggregate but which may need further technical evaluation and will need planning permission before development can commence.
Road Planings	Stone recovered during the surface repair of road carriageways. Often this is coated stone which will need to be treated to remove old bitumen if it is to be reused in road construction.
RTS	Regional Technical Statement – These have been produced by the North and South Wales RAWPs for their respective regions as a general framework for the preparation of development plans
Sand and Gravel	Unconsolidated usually superficial material usually of fluvial or glacial origin overlying the solid geology. However some deposits are bedded and form part of the solid geology. Deposits are usually worked as a source of material for general building and for the manufacture of concrete.
Secondary Aggregate	Wastes or by-products suitable for aggregate purposes but derived from activities where aggregate production is not the main aim eg, various industrial processes and the extraction of minerals for uses other than for aggregates. These include for example colliery waste, blast furnace slag, slate waste.
Sharp Sand	Coarse sand suitable for use in making concrete.

Slate Waste	Waste material arising from the manufacturing of roofing and architectural slate (See Secondary Aggregates). Often sourced from historic working deposits of quarrying waste.
Soft Sand	Otherwise known as building sand, fine sand suitable for use in such products as mortar and plaster.
SRAs	Secondary and recycled aggregates.
SSCR	Statement of Sub-Regional Collaboration
WET	Wales Environment Trust

Appendix 5 Current NWaRAWP Membership (at date of publication)

Chair

Andrew Farrow	Flintshire County Council

Technical Secretary

Hannah Parish	Flintshire County Council

Local Government Representatives.

Note: Attendance is delegated to Officers of the North Wales Shared Minerals and Waste Planning Service or to relevant officers of the respective Authorities

Dewi Jones (Represented by Robin Williams)	Isle of Anglesey County Council
Gareth Jones (Represented by Rhys Cadwaladr)	Cyngor Gwynedd
Jonathan Cawley Sion Roberts	Eryri National Park
James Harland	Conwy County Borough Council
Emlyn Jones Angela Loftus Karsten Brussk (Represented by Jessica Roberts)	Denbighshire County Council
Andrew Farrow	Flintshire County Council
David Fitzsimon Matthew Philips Chris Smith (Represented by Charlie Pope	Wrexham County Borough Council

Aggregate Industry Representatives

Nick Horsley	Mineral Products Association Wales (MPAW)

David Harding	MPAW
John Carlon	British Aggregates Association (BAA)
Dafydd Williams	Hogan Group (BAA and MPAW)
Tiffany Cox	Tarmac/MPAW
Andrew Bower	Hanson/MPAW
Darrell Williams	DP Williams Group Ltd/ Independent
Richard Parton	Cheshire Sand and Gravel/Independent
Mark Kelly	Cemex/MPAW
Maria Cotton	Breedon Group (BAA and MPAW)
Kurt Cowdrey	Norwest Sand and Ballast/ BMAPA
Shaun Denny	Welsh Slate Ltd/Breedon Group (BAA/MPAW)
Huw Thomas	Tudor Griffiths Group (MPAW SME)
Geoff Storey	Aggregate Industries (MPAW)
Huw Evans	CCP Building Products Limited (BAA)
Nigel Driver	Grosvenor Estate
Graham Jones	Jones Brothers
Andrew Roberts	Jones Brothers
Nick Everington	The Crown Estate
Rob Anderson	RH DHV
Nigel Griffiths	RH DHV

Government / Other Agency Representatives

Jo Smith	Welsh Government, Planning Division (WG)
Gareth Dudley-Jones	Welsh Government, Planning Division (WG)
Christina Davey	Department for Levelling Up, Housing & Communities
Niamh Murphy	Department for Levelling Up, Housing & Communities
James Cooke	Landscapes, Nature and Forestry Division, WG
Peter Jordan	Natural Resources Wales (NRW)
Rhian Jardine	NRW
Justin Waite	NRW
Ngaire Thomson	North West England AWP (Secretary)
Rachel Whaley	North West England AWP (Chair)
Hugh Towns	South Wales RAWP (Secretary)
Thomas Boothroyd	South Wales RAWP
Joseph Mankelow	British Geological Survey