

North Wales Regional Aggregates Working Party



Annual Report 2008

This Annual Report covers the calendar year 2008.

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Copies of this report are available electronically on the NWaRAWP website www.nwrawp-wales.org.uk.

Acknowledgement

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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.

Terms of Reference for the NWaRAWP

1. To monitor regularly, the production and sales of aggregate minerals within the region.
2. To assess the total sand, 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.
3. To assess the likely short term demand for aggregates in the region.
4. To indicate whether, in the short term, current permitted reserves are likely to be adequate.
5. To assess the extent of imports of aggregates from other regions.
6. To indicate to what extent the market area serviced by the region could and should be allowed to change in the medium and longer term (i.e. 10 and 20 years respectively).
7. To consider the extent and implications of the present and potential future use of synthetic and waste materials* as substitutes for natural aggregates.
8. To take adequate account for agricultural, amenity and other planning conditions (particularly 6), for example other land uses and transport.

In addition the NWaRAWP 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, especially in respect of the preparation of Regional Technical Statements.

* Now normally referred to as secondary and recycled aggregates

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1.0 | Introduction

- 1.1.** This report, by the North Wales Regional Aggregates Working Party, 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 control in relation to mineral extraction,
 - ▶ assists the industry with the planning of future development and investment.
- 1.2.** 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.
- 1.3.** It covers the calendar year 2008, and where appropriate (e.g. permitted reserves) relates the position at 31 December 2008. In 2008 there was no major “in depth” four yearly survey. The survey carried out by the NWaRAWP was therefore a “standard” survey which collected only information relating to sales of aggregate and not distribution. 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.
- 1.4.** There have been a number of changes in the administration of the North Wales RAWP over recent years which are not coincidental with the preparation of reports. These are set out in the 2006 Annual Report.
- 1.5.** A high level of returns was again received for the 2008 survey and in the majority of cases a high level of detail was provided. Therefore the sales, reserve and distribution figures for those site included in the survey are all believed to be reasonably robust unless specifically indicated to the contrary. However the failure of one operator, known to make a significant contribution to the North Wales aggregate market, to respond to the survey has meant that estimates have had to be made which, in the current uncertain market, are less reliable than might be the case in more economically stable times, this in turn has resulted in a reduction, albeit slight, in the reliability of the collation.
- 1.6.** One significant change to the collation for 2008 has been to include the sales of all slate aggregate products in the aggregate sales analysis 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 substitute for specific aggregate types, for example concrete sand however it is conceded that slate is not a suitable substitute for the complete range of aggregates and to that extent is unlikely to completely replace conventional primary aggregate even on a sub-regional basis, if not displace, other exhausted aggregate supplies.

2.0 | 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 working parties in England. The working parties are co-ordinated by the National Co-ordinating Group (NCG) which provides a forum for debate and discussion about matters relevant to the effective running of the working parties throughout Wales and 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).

Membership

2.2. The membership of the NwaRAWP is drawn from officers of the MPAs, the aggregates extraction industry via the Quarry Products Association (QPA), British Aggregates Association (BAA) and independent companies; the Welsh Assembly Government (WAG), the Department for Communities and Local Government – (CLG), the British Geological Survey, the National Federation of Demolition Contractors (representing the recycling sector), the marine aggregates producers, the Environment Agency, the Countryside Council for Wales and the South Wales RAWP.

2.3. In 2008, Gareth Jones of Gwynedd Council chaired the RAWP and Ian Thomas of the National Stone Centre provided secretarial services to the NwaRAWP, assisted by Karen Down. A full list of members at the end of 2008 can be found in Appendix 1.

2.4. There were no changes to the NwaRAWP during 2008 in terms of the Local Authorities, operator companies and other agency and government representations but there was a considerable variation in both the individuals attending on behalf of the member bodies and the number of non attendees over the two meetings

NWales RAWP Meetings in 2008

2.5. In 2008 the North Wales RAWP met on 20th May in Colwyn Bay and on 10th December also in Colwyn Bay. At the May meeting, the main topic of discussion was the report on the preparation of the RTS and also included a report on the Members Forum and an update by the Wales Environmental Trust representative on secondary aggregates. Of particular interest was a suggestion that the industry should, at future meetings, present an update on its view of the state of the aggregate business in North Wales similar to that provided by the Mineral Planning Authorities. In December, the progress with the RTS and 2006 Report was discussed, the WET representative presented its report entitled “North Wales - 2007 Report Recycled and Secondary Aggregates Survey for Regional Aggregate Working Parties”, dated October 2008, the other substantive item was a consideration of the WAG commissioned report into the future of RAWPs in Wales.

3.0 | Survey results, 2008

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 igneous rock for crushed rock aggregate, largely for use within the region, whereas in the North East, limestone is the main source of crushed rock of which a high proportion (about 65% in 2005 when distribution was last surveyed) is exported from the region. In this report the crushed rock figure includes, for the first time, all slate aggregate products, that is, both primary won slate quarry aggregate and aggregate produced from waste arising from the working of slate for building materials; the purpose of this is to try to give a better understanding of the overall aggregate market in the region.

Table 1 | Aggregates Sales – North Wales Region 1999 – 2003 (,000Tonnes)

Year	SAND & GRAVEL			CRUSHED ROCK			TOTAL N WALES
	NW Wales	NE Wales	Total N Wales	NW Wales	NE Wales	Total N Wales	Aggregates Sales
1999	261	1420	1681	1065	6931	7996	9677
2000	371	1157	1528	1270	6743	8013	9541
2001	216	1170	1386	702	6496	7198	8584
2002	213	1141	1354	651	5869	6520	7874
2003	231	1040	1271	656	5641	6297	7568
2004	243	904	1147	738	5767	6505	7652
2005	250	985	1235	565	5530	6095	7330
2006	154	1017	1171	597	5689	6286	7457
2007	138	926	1063	573	5725	6298	7361
2008	*	*	*957	1295	**4890	**6185	7142

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

*** Includes estimate for one operator*

2008 S&G includes marine dredged

NW Wales crushed rock includes slate waste used for aggregate

3.2. Figures 1 and 2 also show the contribution of the sub-regions to crushed rock and sand and gravel sales respectively. The increase in the contribution of NW Wales to crushed rock aggregate can be attributed to the inclusion of all slate aggregate in this survey. The inclusion of slate aggregate has masked the general downward trend in crushed rock sales, had slate waste aggregate not been included in the 2008 statistics, crushed rock sales would have shown a decline of 12% on a like for like basis when compared with 2007 .

3.3. Sand and gravel sales also showed a decrease in sales of 10% when compared with 2007 but has not been possible, for reasons of confidentiality, to disclose whether this was across the region or reflects a decrease in one of the two sub-regions.

Figure 1 | Sub-regional aggregate sales, 1999-2008 - Crushed Rock

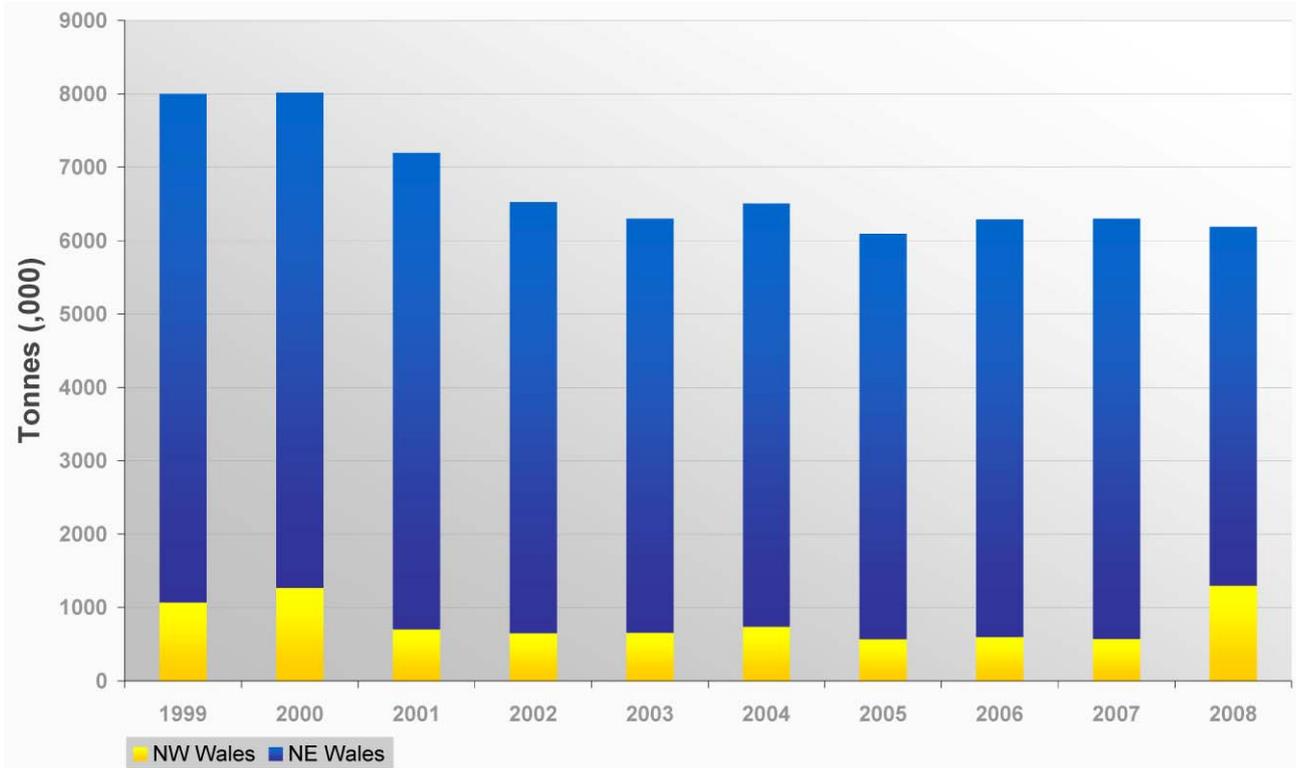
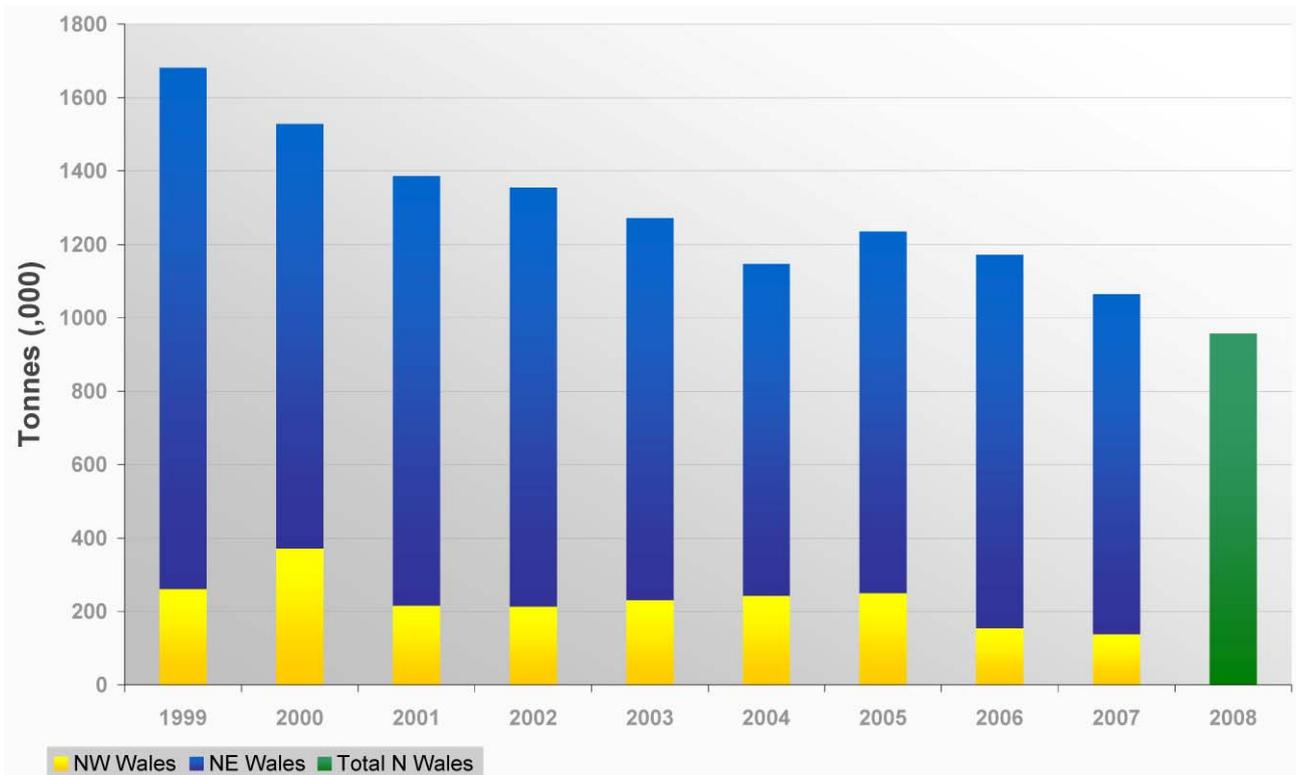


Figure 2 | Sub-regional aggregate sales, 1999-2008 S&G Sales



Unitary Authority Production

3.4. In terms of production within MPA areas, which is set out in Table 2, it is not possible to provide an analysis of sand and gravel sales based on MPA areas although it would appear that sales climbed back to the 2006 level. Crushed rock sales analysis suggest that there was as an overall decline in sales of crushed rock of about 13%. The biggest decline was in Denbighshire, at 45% suggesting that distance to the main market in north west England may have an influence.

Table 2.1 | Aggregate Sales, Sand & Gravel by MPA 1999 - 2008

Year	Anglesey	Gwynedd	Snowdonia	Conwy	Flintshire/ Denbighshire	Wrexham	Total
1999	0	261310	0	0	793036	627036	1681382
2000	0	370094	0	0	585427	571737	1527258
2001	0	216197	0	0	546512	623832	1386541
2002	0	212964	0	0	523613	617553	1354130
2003	0	230924	0	0	389691	650771	1271386
2004	0	245307	0	0	292519	606833	1144659
2005	0	250213	0	0	#	985074	1235287
2006	0	154131	0	0	#	1017008	1171193
2007	0	137622	0	0	#	925541	1063163
2008	0	c	0	0	c	c	956,694

Table 2.2 | Aggregate Sales, Crushed Rock by MPA 1999 – 2008

Year	Anglesey	Gwynedd	Snowdonia	Conwy	Denbighshire	Flintshire	Wrexham	Total
1999	911111	144874	9076	1637307	2615243	2678418	0	7996029
2000	1006937	262717	0	1858172	2332716	2551903	0	8012445
2001	525494	177063	0	1743910	1719904	3031829	0	7198200
2002	485026	165480	0	1671991	1226523	2970787	0	6519807
2003	419079	236924	0	1502975	1066215	3071685	0	6296878
2004	445231	292705	0	1258972	1037837	3470501	0	6505246
2005	564950		0	1370431	905581	3254442	0	6095404
2006	289881	306628	0	1546840	898792	3243542	0	6285683
2007	274236	299354	0	1604782	567299	3552637	0	6298308
2008	279088	341138	0	1385997	372214	3131969 (a)	0	5510406

(a) Includes estimate for one operator

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 60% of the regional output, a slight increase in recent years. Wrexham continues to be the largest producer of sand and gravel.

Figure 3 | Unitary Authority Sales - Crushed Rock 1999-2008

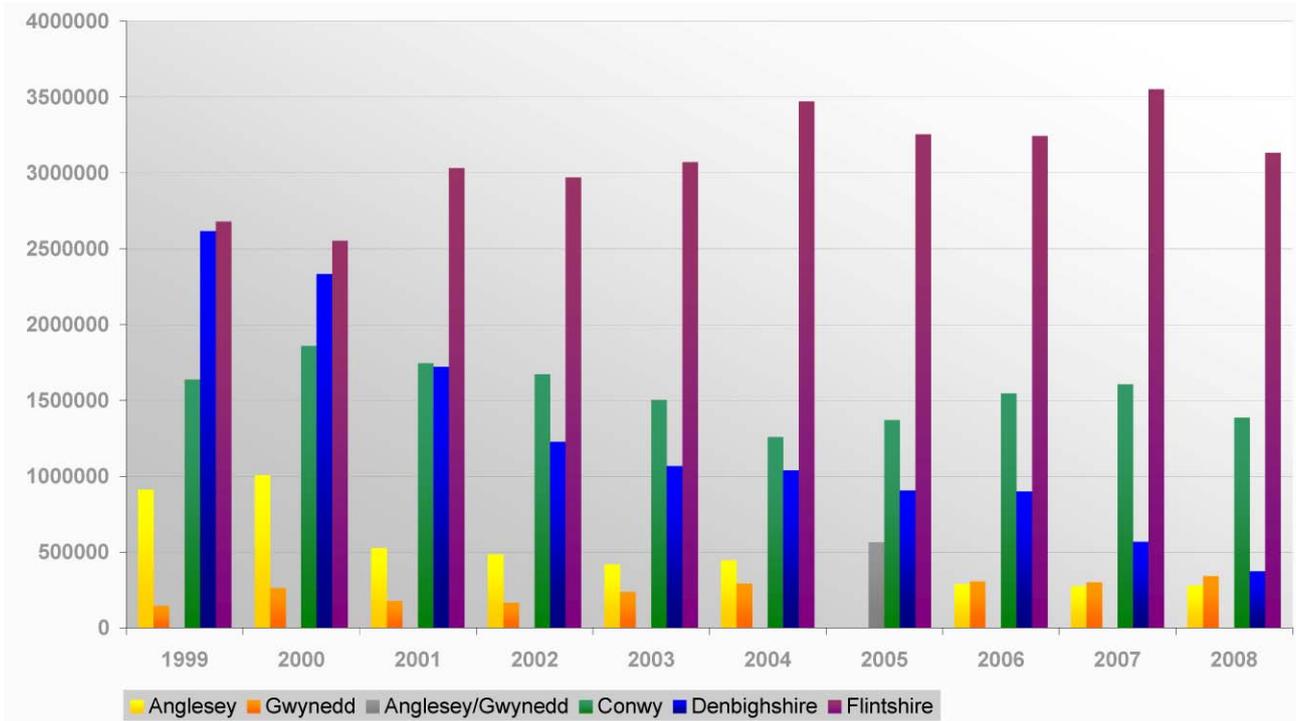
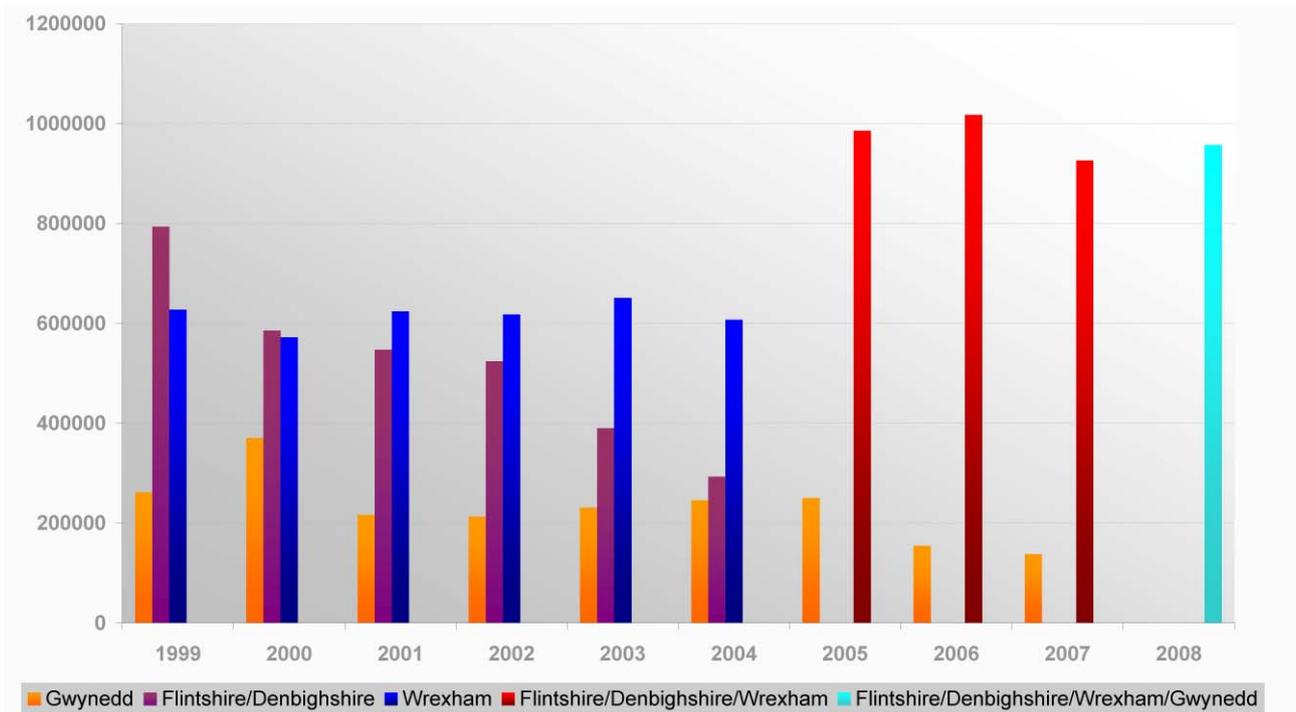


Figure 4 | Unitary Authority Sales - Sand and Gravel 1999-2008



Aggregate End Use

3.6. Tables 3 and 4 set out the end uses of the primary aggregate sales. In the case of crushed rock, a full breakdown of end uses was provided by most but not all operators. Sales with an unknown end use have therefore been combined with sales for other constructional uses. With regard to sand and gravel sales, a complete breakdown of end uses was provided. As with previous years primary won aggregates provides the largest contribution, particularly limestone although slate continues to contribute at a level of around 15% of the total North Wales sales. Figure 5

3.7. Table 3.1 shows that, in terms of total rock aggregate sales about 20% of crushed rock was used as roadstone with a slightly higher proportion being used coated, a slight reduction on 2007. Aggregate for concrete showed a slight increase, up to 20%. Other constructional uses (including unknown uses) accounted for 34% of sales. Sales for non-aggregate purposes amounted to 10% of total sales of crushed rock, the bulk of which was used in cement manufacture.

Table 3.1 | Crushed Rock Sales, Limestone: North Wales 2008

All figures in Tonnes

	Anglesey (a)	TOTAL NW WALES (a)	Conwy/ Denbighshire	Flintshire	TOTAL NE WALES	TOTAL
Coated Roadstones			126,637	233,566	360,203	360,203
Uncoated Roadstone			81,651	488,636	570,287	570,287
Concrete Aggregate			396,743	773,621	1,170,364	1,170,364
Other Screened/ Graded			228,770	336,415	565,185	565,185
Rail Ballast						
Other Construction incl. Unknown			665,779	877,934	1,543,713	1,543,713
Total Aggregates			1,499,580	2,710,172	4,209,752	4,209,752
Building Stone						
Other Non-agg. uses			7654	515,850	523,504	523,504
Total Non-agg uses			7654	515,850	523,504	523,504
Total			1,507,234	3,226,022	4,733,256	4,733,256

(a) Anglesey Limestone production shown under igneous and metamorphic rock

(b) Conwy and Denbighshire Limestone combined

NB Excludes data from one operator in Flintshire from previous returns production mainly fill and other construction uses

Table 3.2 | Crushed Rock Sales, Igneous/ Metamorphic Rock: North Wales 2008

All figures in Tonnes

	Anglesey (a)	Gwynedd/ Conwy (b)	TOTAL
Coated Roadstones	161,000	178,198	339,198
Uncoated Roadstone	1,600	77,258	78,858
Concrete Aggregate	42,050	37,217	79,267
Other Screened/ Graded	69,200	51,837	121,037
Rail Ballast	0	240,789	240,789
Other Construction incl. Unknown	2,134	178,129	180,263
Total Aggregates	275,984	522,639	798,623
Building Stone	3,354	32	3,386
Other Non-agg. uses			
Total Non-agg uses	3,354	32	3,386
Total	279,338	522,671	802,009

(a) Anglesey Limestone production shown under igneous and metamorphic rock

(b) Includes all slate used as aggregate

Table 3.2 | Crushed Rock Sales, Slate: North Wales 2008

All figures in tonnes

	TOTAL
Coated Roadstones	
Uncoated Roadstone	5,900
Concrete Aggregate	70,338
Other Screened/ Graded	526,494
Rail Ballast	
Other Construction incl. Unknown	103,500
Total Aggregates	706,232
Building Stone	
Other Non-agg. uses	43,546
Total Non-agg uses	43,546
Total	749,778

Table 3.3 | Crushed Rock Sales, Total Rock: North Wales 2008

All figures in Tonnes

	Total rock
Coated Roadstones	699,401
Uncoated Roadstone	655,045
Concrete Aggregate	1,319,969
Other Screened/ Graded	794,401
Rail Ballast	240,789
Other Construction incl. Unknown	2,209,611
Total Aggregates	5,919,216
Building Stone	3,386
Other Non-agg. uses	567,050
Total Non-agg uses	570,436
Total	7,989,232

Figure 5 | Crushed Rock Sales - End Use

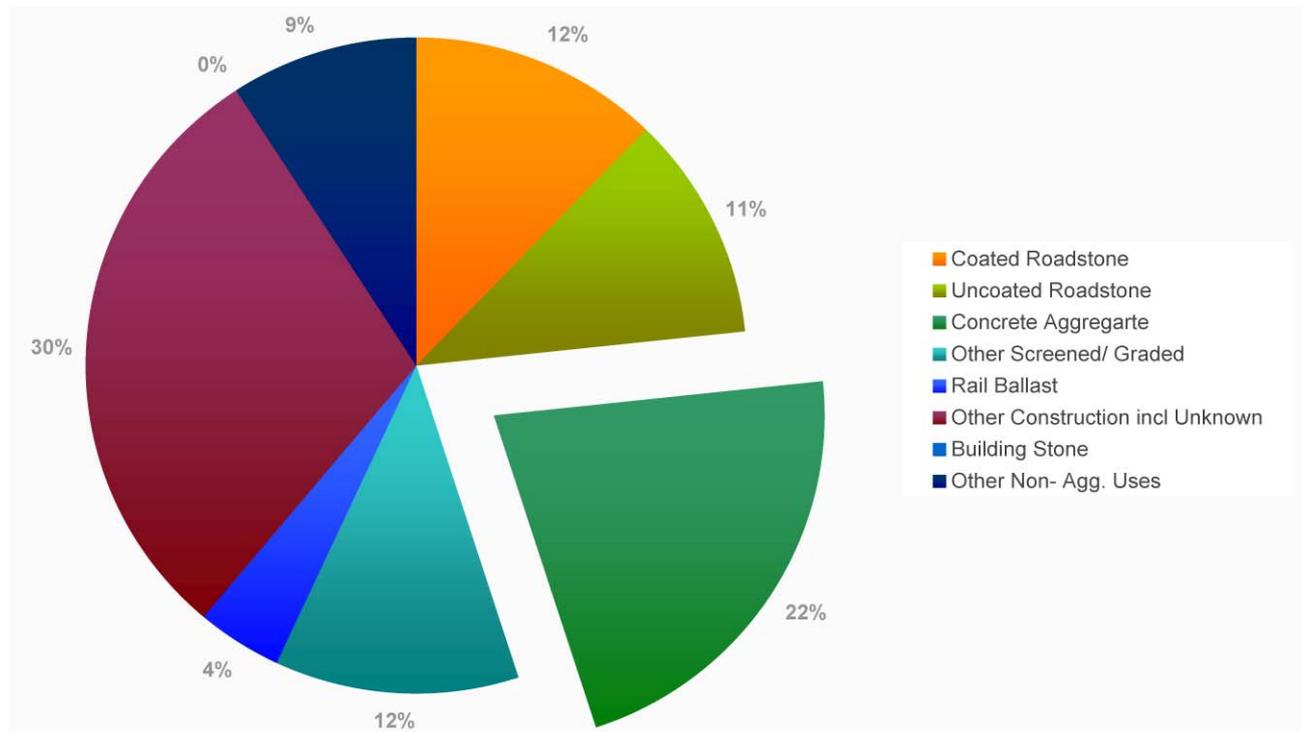
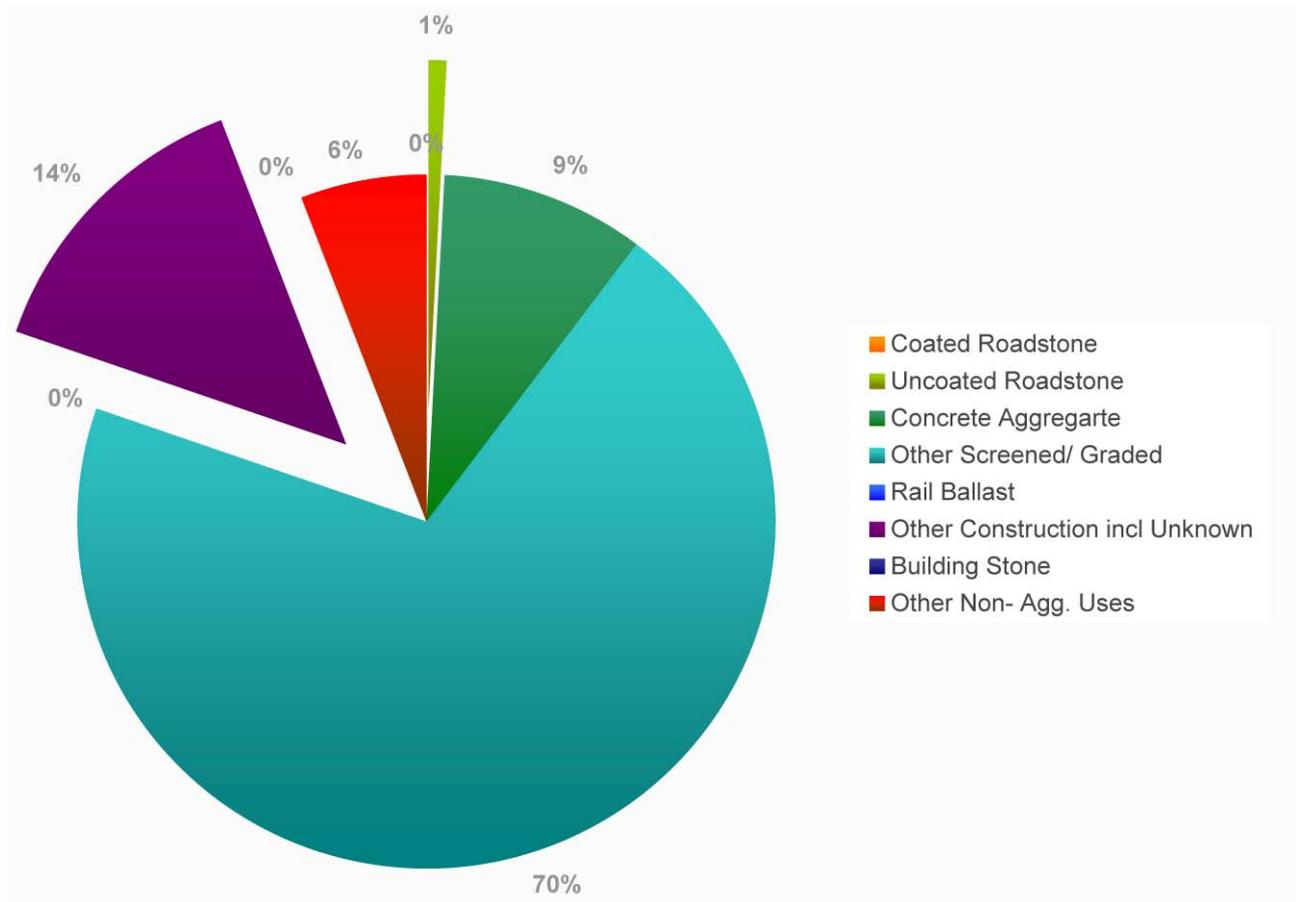


Figure 6 | Slate Sales – End use



3.8. Table 4 and Figure 6 show little change for sand and gravel when compared with 2007, in that about 45% of sales were sharp (concreting) sand and 11% soft sand. Gravel for concrete increased to 15% of sales. About 14% of the remaining supply comprised other screened gravels with the remainder being made up of other unspecified sand and gravel. A very small amount of sand and gravel, 3%, was used for non-aggregate purposes.

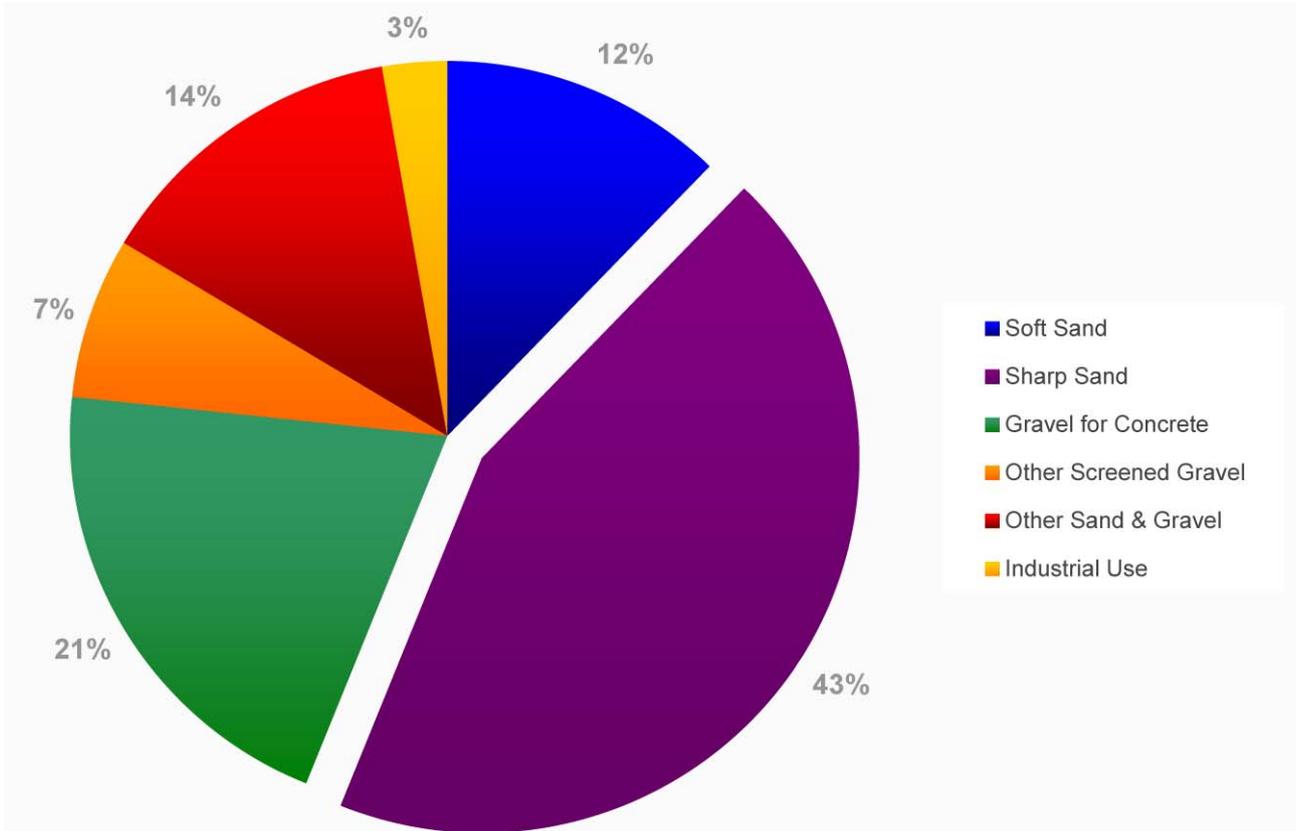
Table 4 | Sand & Gravel Sales: North Wales 2008

All figures in Tonnes

	Soft sand	Sharp sand	Gravel for concrete	Other screened gravel	Other sand & gravel	Total aggregate	Industrial use	Total
Total	114,685	415,315	196,176	66,491	128,990	931,657	25,037	956,694

NB. For reasons of confidentiality all N Wales S&G statistics have been combined

Figure 7 | Sand and Gravel End Use



Distribution

3.9. As the 2008 survey is an 'intermediate' survey, information relating to the distribution of aggregates was not collected.

4.0 | Reserves & Landbanks

4.1. Table 5 below shows the permitted reserves of crushed rock in the North Wales Region at the end of 2008. The reserves are shown divided into those in active sites and those in inactive sites, that is site where aggregate is was being worked in 2008 or resumption of working could take place without further consideration by the mineral planning authority. In accordance with MTAN1, paragraph 47, those in dormant sites are shown in a separate category. Material contained in dormant sites whilst having a valid planning permission, cannot be worked until new conditions have been approved and does not therefore contribute towards the permitted reserve from which the landbank calculation is derived.

Table 5 | Rock reserves North Wales at 31 December 2008

All figures in 1,000 tonnes

	Active	Inactive	Total	Dormant
Limestone/ Dolomite				
Anglesey	(a)	(a)	(a)	-
Conwy	35083	-	35083	-
Denbighshire	18375	4476	22851	-
Flintshire* (b)	75577		76982	1405
Total Limestone	129035	4476	134916	1405
Igneous/ Metamorphic rock				
Anglesey/Gwynedd/				
Conwy(c)	45596	6000	8147	NR
N Wales total	45596	6000	51596	NR
N Wales total rock	174631	10476	186512	1405

NB Dormant reserves NOT included in inactive reserves

(a) Anglesey limestone included with Conwy limestone

(b) Does not include reserves designated for non aggregate uses

(c) All igneous reserves combined

** Flintshire Limestone includes estimate for one operator*

NR: No Return to Survey

4.2. The reduction in the number of quarries in 2008, particularly in NW Wales, has meant that there has been an increased need to combine Unitary Authorities in the collation. For the purposes of reserve calculation it has been decided to include rock types together rather than geographical areas, for example, Anglesey limestone has been included with Conwy limestone; in previous years it was included with Gwynedd igneous rock. The reason for this is to try to provide some understanding of the availability of the various rock qualities.

4.3. The table shows that the level of permitted reserves of crushed rock contained in active sites for which returns have been made remained at 95%. The issuing of Prohibition Orders in recent years has reduced the amount of material contained in dormant sites this programme continued in 2008. The process is detailed in the Regional Technical Statement and in earlier Annual Reports. The table does not included slate waste and other rock type waste arising from slate working, this is not meant to reflect on the suitability of the material for aggregate use, much of the material is being used for a range of aggregates, rather the uncertainty surrounding the reserve figures, which could be in excess of 40m tonnes.

Table 6 | Sand & gravel reserves North Wales at 31 December 2008

All figures in 1,000 tonnes

	Active	Inactive	Total	Dormant
Gwynedd	750	225	975	-
NW Wales total	750	225	975	-
Flints/Wrexham	19396	2070	21466	800
NE Wales total	19396	2070	21466	800
Total sand & gravel	20046	2295	22341	800

N.B. Dormant reserves NOT included in Inactive reserves

4.4. Table 6 indicates the permitted reserves of sand and gravel in the North Wales Region at the end of 2007. As for crushed rock, the material is shown divided into active sites, inactive sites and dormant sites. The table shows that the majority of the calculated permitted reserve of sand and gravel is contained in active sites. There are sand and gravel reserves allocated for non-aggregate purposes at a quarry in Denbighshire which could be made available for the aggregate market. The allocation has not allowed for reserves of slate waste; it is known that certain types of slate waste is capable of producing a sharp sand suitable for use in concrete but the information is not available to make an assessment of the potential reserve.

Table 7 | Reserves & Landbanks for aggregates* North Wales 2008

	2006 Aggregate sales	2007 Aggregate sales	2008 Aggregate sales	Average sales	Permitted reserves at 31/12/2008	Landbank (years)
Limestone						
Anglesey (a)	(a)	(a)	(a)	(a)	(a)	(a)
NW Wales (a)	(a)	(a)	(a)	(a)	(a)	(a)
Conwy	1.03	1.18	(b)	(b)	(b)	(b)
Denbighshire	0.9	0.56	0.37	0.61	22.85	37
Flintshire	3.24	3.55	3.1	3.3	76.98	23
NE Wales	5.17	5.30	3.47	3.91	99.83	26
Total (a)(b)	5.17	5.30	3.47	3.91	99.83	26
Igneous/ Metamorphic rock						
Anglesey (a)	0.3	0.27	0.28	0.28	12.57	46
Gwynedd	0.3	0.3	0.3	0.3	9.35	31
NW Wales	0.6	0.57	0.58	0.58	21.9	38
Conwy(b)	0.52	0.42	1.4	1.52	64.77	43
NE Wales	0.52	0.42	1.4	1.52	64.77	43
Total (a)(b)	1.1	0.99	1.98	3.1	86.7	28
Total rock	6.27	6.29	5.45	6.0	186.5	31
Sand & gravel*						
Gwynedd	0.15	0.14	0.1	0.13	0.98	7
NW Wales	0.15	0.14	0.1	0.13	0.98	7
Denbighshire/ Flintshire/	1.0	0.93	1.0	0.97	21.47	22
Wrexham (e)						
NE Wales	1.0	0.93	1.0	0.97	21.47	22
Total	1.2	1.06	1.1	1.1	22.35	20

Reserve Figures Exclude Dormant Reserves

*N.B. it is important to note that the figures in this table relate solely to aggregate uses and related reserves.

(a) Anglesey limestone shown under Anglesey igneous and metamorphic rock

(b) Conwy Limestone combined with Conwy Igneous for 2008

* Marine Sales not included

4.5. Table 7 provides details of the aggregate reserves and landbank currently available and does not include rock designated for industrial use, for example cement manufacture, or rock reserves in dormant sites. 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. In contrast to Table 6, all Anglesey rock is included together and not combined with similar rock

types elsewhere, to allow an assessment on a Unitary Authority basis of individual apportionment. It is important to note that although the use of slate waste derived aggregate was included in Section 1 of this report to provide an overall aggregate market picture for the region the slate waste sales have not been included in the landbank analysis because accurate information on the reserve potential for this material is unknown, this is an issue that future surveys will need to address.

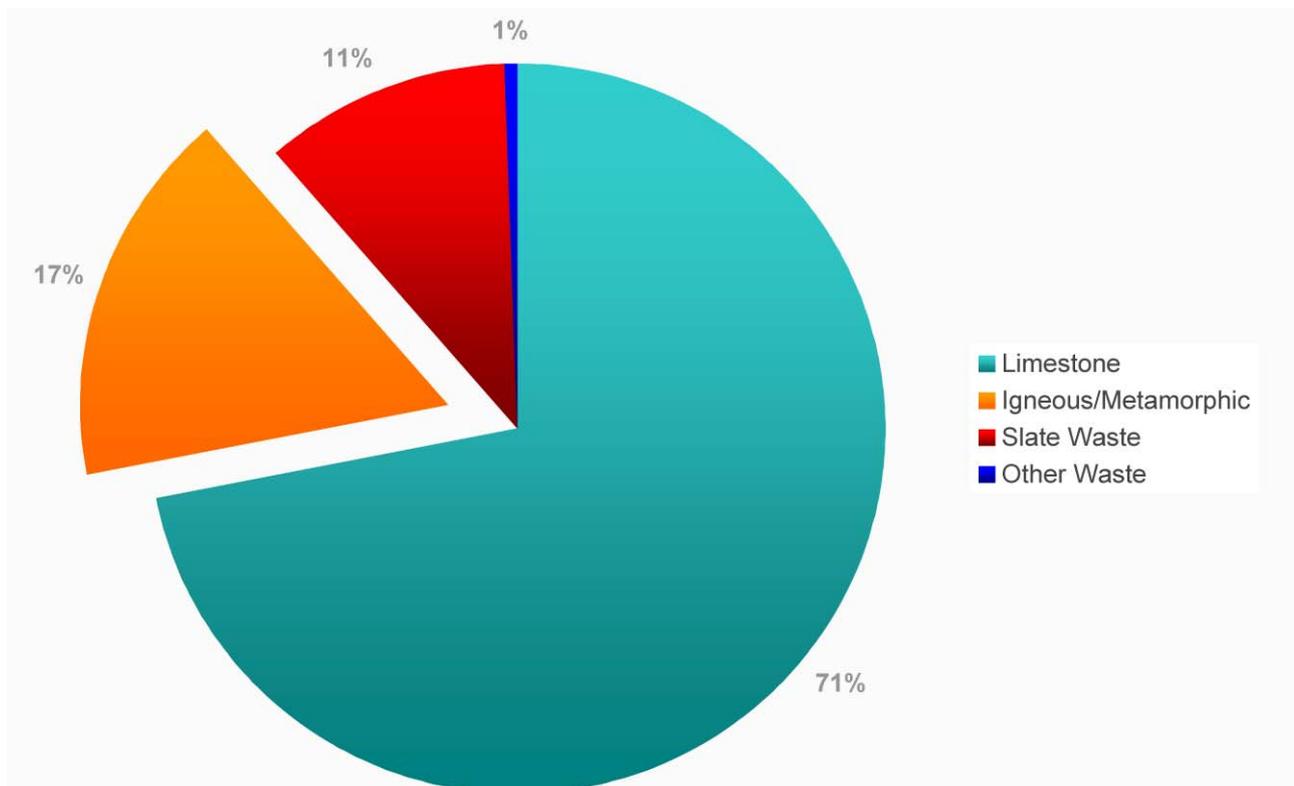
- 4.6.** Notwithstanding the effect on the collation of having to reconfigure the allocation of sales for reasons of confidentiality, it is clear from the landbank figures that crushed rock reserves throughout most of North Wales are large with landbanks in excess of 20 years in all areas. This is the level stipulated in MTAN 1, above which it is deemed that further provision is not appropriate in most circumstances. In terms of sand and gravel, the landbank is 21 years in North East Wales, but stands at only 7 years in North West Wales, at the 7 year minimum recommended in MTAN1. This is a very slight increase in the NW Wales landbank and may reflect the impact that the introduction of a slate waste derived sharp sand is beginning to have on the local market
- 4.7.** Additional reserves held in dormant sites potentially add to the landbank. Whilst these reserves cannot be worked without new conditions being approved, they are nevertheless consented.
- 4.8.** The landbanks show little change from the 2007 survey although the reconfiguration referred to above has possibly masked some changes, nevertheless the overall figures for both crushed rock and sand and gravel show no significant decline in the regional landbank.

5.0 | 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. 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 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.

5.2. Where slate has been used as aggregate, whether primary dug or processed waste, it has been included in the total sales; see Table 1 and 3 above, this is to give an indication of the overall size of the aggregate market served by the region in 2008. Figure 7 shows the relative share of the crushed rock aggregate sales met by slate.

Figure 8 | Rock Type Market Share 2008



In this region, the main source of secondary aggregates is waste slate. Although there is one dominant producer, there are now a number of other firms in the business. All uses of slate, including those for decorative and landscape purposes, have been considered as aggregate for the purpose of this report, in

2008 slate aggregate sales remained consistent with 2007 at around 750,000 tonnes or 17% of the market. The companies involved continued to actively market the material although the shipment by sea started in 2007 did not continue for logistical reasons related to transport.

Table 8 | N Wales: Sales of slate for aggregates 1999-2008

Year:	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1,000 Tonnes	262	362	379	593	587	625	549	729	1033	710

Source: NWA RAWP Surveys

5.3. The majority of the material was recycled in Gwynedd but a small amount came from Denbighshire.

5.4. Reserves of slate waste, although difficult to assess with any precision, has been estimated that there at about 79Mt. Of this some 39Mt are known to exist with planning permission in Gwynedd however, the true figure may be more than twice this. No reserves were declared in Denbighshire for 2008 but it is estimated that there is potentially around 0.5mtonnes available

Clay, Shale, and Colliery Spoil

5.5. In the case of fill grade material from clay/shale sites considered suitable for construction fill, four sites containing an estimated (part by operators/part by MPA) 5.45 million tonnes had planning permission, almost all of which was in Flintshire, the remainder being in Denbighshire. However, the figures are thought to be underestimates of the true reserve. Little information was provided for the 2008 survey but one return indicates clay shales continued to be used for aggregate.

Construction and Demolition Waste

5.6. No survey of this material was carried out for 2008 and the survey of road planings was carried out by only Authority. However it is known anecdotally that C&D waste was being produced and although some of this material did go to landfill sites, 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.

5.7. The A5 road improvements in Conwy generated a significant tonnage of rock suitable for aggregate use , the operator developed a protocol with the Environment Agency to allow the material to be used as aggregate without being designated a waste, the material was transported to the operator's Moel Y Faen quarry in Denbighshire where it is processed and stocked prior awaiting sales.

6.0 | Planning applications & dormant sites

The following information has been provided by Mineral Planning Authorities in respect of applications and decisions in calendar year 2008.

Anglesey

There were no major development control matters to report.

Gwynedd

Dormant sand and gravel sites remain at Tan y Bryn and Cae Efa Lwyd, Penygroes as well as former slate operations at Twll Coed and Dorothea in the Nantlle Valley and at Dinorwic Quarry, Llanberis.

Snowdonia

There were no development control matters to report. Only one small dormant site remains in the MPA.

Conwy

There were no applications made or pending in 2008, nor any dormant aggregate sites.

Denbighshire

No planning decisions were made during the year which had a material impact upon permitted reserves.

Flintshire

The Prohibition Order preventing any resumption of working at Bryn Gwyn quarry was confirmed following a Public Inquiry, the Planning Inspector accepted the position adopted by FCC that, in spite of information provided by the Objector at the Inquiry there was no evidence at the time of making the Order which demonstrated an intention to resume working. A planning application to extend the time to allow for the working of the remaining permitted mineral reserve at Trimm Rock quarry was approved. An application to allow a restart of mineral extraction at Fagl Lane sand and gravel quarry was refused because of the need to restore a quarry that had ceased mineral extraction in 2003, it was considered that reactivation was unlikely.

Wrexham

No significant developments reported.

7.0 | Development Plans

7.1. The table below provides information regarding progress with the preparation of development plans in each Mineral Planning Authority and also sets out the extant development plan for each area.

Table 9 | Development Plans in 2008

Mineral Planning Authority	Progress in 2008/Current Policy document	LDP Adoption Date (Anticipated)
Anglesey	<p>UDP inquiry August/September 2003. Inspectors report 2004. minimal modification in respect of aggregates policies. Plan abandoned late 2005 but legal advice is that policies had reached such a late stage that they carried considerable weight.</p> <p>Work continued on the Local Development Plan with a view to pre-deposit consultation in 2008.</p> <p>Current policy; Gwynedd Structure Plan 1993 and Gwynedd SPG – Minerals, 1996-2006, adopted by Anglesey March 1996</p>	
Gwynedd	<p>The Inspector's report on the Gwynedd Unitary Development Plan was received in 2007 and the authority has provided response to the Assembly.</p> <p>Current Policy relies on the Gwynedd Structure Plan 1993 together with the Rural Arfon Local Plan, Menai Straits Local Plan and the Dwyfor Local Plan</p>	
Snowdonia N.P.	<p>In January 2005 it was resolved to suspend work on the UDP</p> <p>During 2007 the Authority was at the stage of community involvement and participation in a range of future options for the Eryri Local Development Plan. A series of meetings of the Statutory Plans Forum took place.</p> <p>Pre-deposit public consultation on preferred options (Regulation 15) was in February and March 2008</p> <p>Current policy document; Eryri Local Plan adopted Nov. 1999</p>	
Conwy	<p>At the end of 2004 Conwy abandoned its draft UDP and commenced work on an LDP. Towards the end of 2006 the Preferred Strategy of the Conwy Local Development Plan was issued for consultation. In 2007 work began revising the strategy in response to the public consultation. In 2008 work continued on LDP, publication early 2009, anticipated adoption date 2011</p> <p>Current policy documents: Gwynedd 1993 and Clwyd 1999 Structure plans</p>	
Denbighshire	<p>The Local Development Document was at the Regulation 15 stage in 2007. A Preferred Strategy is expected to be issued for consultation in 2008.</p> <p>Current policy document: UDP, Adopted 2002</p>	
Flintshire	<p>A UDP public inquiry was held during 2007, with adoption expected in 2009. After that time work will commence on the Local Development Plan.</p> <p>Current policy; Clwyd Structure Plan 1st Alteration 1991</p>	
Wrexham	<p>The Wrexham Local Development Plan Delivery Agreement was approved by WAG in October 2006. Consultation on Issues and Options took place at the end of 2006 with the consultation period extending into 2007. Public consultation on a Preferred Strategy took place during October/November 2007. Public consultation on the Deposit LDP is proposed to take place in 2010</p> <p>Current policy: Wrexham UDP, adopted February 2005</p>	

8.0 | Regional developments & other significant matters

8.1. This Section is intended to provide a general overview of construction and other factors affecting aggregates production and demand in 2008 and in future years. It is not intended to be quantitative.

Anglesey

8.2. Site work began on Parc Cybi a strategic industrial development near Holyhead. A proposal for a large scale retail complex near Menai Bridge remained uncertain. Development in general in the county is to be focussed around Holyhead Port and in the Menai-Môn hub, an area bounded by Caernarfon, Bangor and Llangefni. Significant repairs to the A55 across the island are anticipated

Gwynedd

8.3. Work completed on Marchlyn slate waste tip at Dinorwic, to recycle c30,000t of material in order to raise the crest height of the Dinorwic Pump Storage Dam (permitted in 2006).

Snowdonia

8.4. There were other significant construction developments in 2008.

Conwy

8.5. Development of the Gwynt y Môr off-shore wind-farm continued.

Denbighshire

8.6. In 2007 planning permission was granted for 13ha of a large residential development at Glasdir, Ruthin, including a primary school. Permission was also obtained for the Ocean Plaza development in Rhyl comprising c 230 apartments, retail, leisure, hotel etc. In 2008 work commenced on the former, the latter had yet to commence

Flintshire

8.7. The large scale proposal to improve the A494 at Queensferry put forward and subject to a public inquiry in the 2007 was refused. Drome Corner M56/A494 improvements completed. Major new development at Airbus complex anticipated in 2009. Development to extend Broughton Retail Park anticipated for 2009/10

Wrexham

8.8. The main recent developments in Wrexham have been the Eagles Meadow Shopping Centre (390,000 sq ft of Floorspace) on an edge of town centre site and housing developments. Housing completions reached a very high level in the fiscal years 2006/07 (948 dwellings) and 2007-08 (606 dwellings). This contrasts with the long term average of about 420 per annum. Major sites were at the former Brymbo Steelworks, Wrexham, Gwersyllt and Ruabon.

Anticipated developments include a new link road to the Wrexham Industrial Estate, due to start in 2010.

9.0 | Research

- 9.1.** A programme was established by the Welsh Assembly 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 Assembly'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.
- 9.2.** The programme is currently funding a five-year programme to complete modern geological mapping to cover Wales by the British Geological Survey. This initially, concentrated on South migrating northwards into Mid Wales and in 2008 continued into North Wales it was anticipated that draft findings would be available for consultation in 2009.
- 9.3.** In May 2008 Capita Symonds presented the final report on the "Evaluation of the Regional Aggregates Working Parties (RAWP) in Wales" the report gave a number of recommendations on the role of RAWPs in the managed supply of aggregates in Wales. It concluded that in most respects the RAWPs had fulfilled their obligations but their effectiveness had been compromised by external factors. A copy of the report can be viewed on the NWaRAWP website.
- 9.4.** The programme also supports the work of the North and South Wales Regional Aggregates Working Parties.

10.0 | Regional Technical Statement (RTS)

The Minerals Technical Advice Note 1 (MTAN1) published in 2004 required the production of Regional Technical Statements for North and South Wales respectively. The process in North Wales began towards the end of 2005 and for various reasons mainly related to staffing, detailed work did not get under way until summer 2006. The first technical discussions were held in autumn 2006 culminating in a series of presentations by stakeholders at the end of 2006. The bulk of the RTS drafting was carried out in spring and summer 2007 and included meetings of the RTS Technical Sub Groups (see Section 2). After consideration by the NWaRAWP on 21st November 2007, a proposed draft for public consultation was put to the RTS Members Forum (the latter comprises local authority elected/nominated members) on 11th December.

A copy was then forwarded to the Minister and made available in English and Welsh for public consultation in early 2008. In summary, the main recommendations of the report were accepted. As the RTS had been endorsed for public consultation by the RAWP and the RTS Members Forum (with some reservations being expressed by certain MPAs), the Welsh Assembly Government regarded it as a material consideration in formulating plans and in particular, in setting out matters to be implemented over the ensuing five years, including apportionment to MPA areas. The Assembly was also anxious to ensure that the process of monitoring began as soon as possible, particularly to make up for time lost in the early part of the RTS preparation process. The need or otherwise for MPAs to make additional provision by means on allocations in LDPs, is described in detail in the RTS. These figures remained provisional subject to MPA endorsement which was anticipated would be completed in early 2009. However, it is evident that rock landbanks are already generally sufficient (see Section 4), but that further provision may be required for sand and gravel. In addition to apportionment, general advice was given in the RTS to each MPA on the safeguarding specific aggregate resources, the importance of securing rail routes/depots and wharves and facilitating the greater utilization of secondary and recycled aggregates, notably slate waste.

At this stage it is too early to assess the effectiveness of the RTS in informing the mineral planning process both in terms of the influence on local plan policy or the content of new planning applications.

Appendix 1 | NwaRAWP Membership 2008 as at 31/12/08

Full RAWP

Chair

G. Jones, Gwynedd Council

Technical Secretary

I A Thomas, National Stone Centre

K Down, Secretariat/National Stone Centre

Local Government representatives

J Williams, Isle of Anglesey County Council

D G Jones, Gwynedd Council

G Lloyd, Snowdonia National Park

C Thomas, Conwy County Borough Council

J Cawley, Denbighshire County Council

G Nancarrow, Flintshire County Council

W Rowlands, Wrexham County Borough Council

Aggregate Industry Representatives

K Hobden, Quarry Products Association (QPA)

I Pearson, Marshalls/British Aggregates Association (BAA)

R Hulse, Tarmac/QPA

T Brown, Hanson/QPA

R. Millard, QPA Wales

D Williams, D P Williams Holdings/Independent Companies

A Rowley, CEMEX/QPA

G Sloyan, J Doyle (Demolition) Ltd (CDW. Recycling Rep.)

N Brown, Norwest Sand and Ballast/ BMAPA

G. Gibson, Welsh Slate Ltd

Government / Other Agency Representatives

S Martin, Welsh Assembly Government (WAG)

W Mackenzie, Communities and Local Government

P Lusty, British Geological Survey

C Warburton, Technical Services Division, WAG

S Williams, WAG (North Wales)

R Roberts, Countryside Council for Wales

M Read, Environment Agency Wales

A Farrow, North West Regional Aggregates Working Party

S Bool, South Wales Regional Aggregates Working Party

G Bishop, Wales Environment Trust

RTS Sub-Group

Chair

G. Jones, Gwynedd Council

Technical Secretary

I A Thomas, National Stone Centre
K Down, Secretariat/National Stone Centre

Members

D G Jones, Gwynedd Council
G Nancarrow, Flintshire County Council
C Dobbs, Tarmac/QPA
R Millard, QPA Wales
I Pearson, Marshalls plc/BAA
D Williams, D P Williams Independents
C Warburton, Welsh Assembly Government (WAG)
S Martin, Welsh Assembly Government (WAG)
R Roberts, Countryside Council for Wales

N Wales RAWP RTS Members Forum*

Chair

Cllr R. Hywel Wyn Williams

Anglesey CC

Cllr John Williams

Conwy

Cllr Tony Tobin

Flintshire

Cllr Gareth Williams
Cllr Jim Jones

Denbighshire

Cllr Bob Barton

Gwynedd

Cllr R. Hywel Wyn Williams
Cllr Gwilym Williams

Snowdonia NP

Peter Weston
Iolo ap Gwyn

Wrexham CBC

Cllr Mark Pritchard
Cllr M H R Moysen

* Provision is made for a nominee and a deputy to represent each MPA.

Appendix 2 | Sites producing aggregates in 2008

Unitary Authority	Site	Material	Grid ref.
Anglesey	Gwyndy	Igneous	395795
Anglesey	Hengae	Igneous	440687
Anglesey	Rhuddlan Bach	Limestone	486806
Anglesey	Nant Newydd	Limestone	481811
Anglesey	Bryn Engan	Limestone	507814
Anglesey	Aber Strechrt	Limestone	503 866
Gwynedd	Garth (Minfordd)	Igneous	259339
Gwynedd	Nanhoron	Igneous	
Gwynedd	Trefor/Yr Eifl No 2	Igneous	
Gwynedd	Fferm Graianog	Sand & Gravel	245349
Gwynedd	Port Penrhyn, Bangor	Sand (Marine)	259373
Gwynedd	Penrhyn	Slate Waste	262365
Gwynedd	Oakeley	Slate Waste	269347
Gwynedd	Pen yr Orsedd	Slate Waste	250354
Gwynedd	Llechwedd	Slate Waste	
Gwynedd	Manod & Graig Ddu	Slate Waste	
Snowdonia	None	None	-
Conwy	St. George	Limestone	970373
Conwy	Raynes	Limestone	890780
Conwy	Penmaenmawr	Igneous	702755
Denbighshire	Graig (Llanarmon)	Limestone	320356
Denbighshire	Graig Denbigh	Limestone	305366
Denbighshire	Aberduna	Limestone	320361
Denbighshire	Maes y Droell	Sand & Gravel	322356
Denbighshire	Moel y Faen	Clay/Shale	319348
Flintshire	Pant	Limestone	319730
Flintshire	Pant y Pwll Dwr	Limestone	319732
Flintshire	Trimm Rock	Limestone	319366
Flintshire	Hendre	Limestone	319368

Unitary Authority	Site	Material	Grid ref.
Flintshire	Aberdo/Bryn Mawr	Limestone	318372
Flintshire	Cefn Mawr	Limestone	320363
Flintshire	Maes Mynan	Sand & Gravel	311372
Flintshire	Fron Haul	Sand & Gravel	315370
Wrexham	Borras	Sand & Gravel	364524
Wrexham	Ballswood	Sand & Gravel	350563

Appendix 3 | Dormant/ inactive sites included in 2007 survey

Unitary Authority	Site	Material	Grid ref.
Anglesey	Bwlch Gwyn	Igneous	485730
Anglesey	Tywyn Trewan	Sand/Ash	321747
Anglesey	Creigiau	Sandstone	488860
Anglesey	Dinmor	Limestone/dolomite	631813
Gwynedd	Cae Efalwyd	Sand & Gravel	246352
Gwynedd	Tan y Bryn	Sand & Gravel	246352
Gwynedd	Gro Sarnau	Sand & Gravel	-
Gwynedd	Pentre Uchaf	Sand and Gravel	
Snowdonia	None	None	-
Conwy	Plas Gwilym	Limestone	880780
Denbighshire	Burley Hill	Limestone	320360
Denbighshire	Pant Y Gwlanod	Limestone	320357
Flintshire	Grange	Limestone	316375
Flintshire	Cambrian	Limestone & Silica Rock	321371
Flintshire	Ddol Uchaf	Sand & Gravel	315371
Flintshire	Fagl Lane	Sand & Gravel	330359
Flintshire	Kinnerton Bank	Sand & Gravel	333360
Flintshire	Hendre East	Sand & Gravel	318368
Flintshire	Ruby	Shale	320367
Wrexham	None	None	-

Appendix 4 | North Wales Aggregates Working Party Publications

Interim Report	November 1976	Out of print
Regional Commentary Part 1	June 1981	£2.50
Regional Commentary Part 2	July 1981	£2.50
Report on AM85 Survey	June 1987	£2.50
Regional Commentary 1988	October 1988	£2.50
First Annual Report 1989		£2.50
Report on AM89 Survey	April 1991	£5.50
Annual Report 1990	June 1991	£3.50
Regional Commentary	February 1992	£5.50
Annual Report 1991	June 1992	£3.50
Annual Report 1992	July 1993	£5.50
Annual Report 1993	July 1994	£5.50
Report on AM93 Survey		£5.50
Guidelines for Aggregates Provision	March 1995	£5.50
Annual Report 1994		£5.50
Annual Report 1995		£5.50
Annual Report and Statistics 1996-2000 (with revised 1995 data) (single volume)		
Annual Report 2001	March 2002	£15.00
Annual Report 2002	September 2003	£15.00
Annual Report 2003	September 2004	Free
Annual Report 2004	September 2006	Free*
Annual Report 2005	May 2007	Free*
Annual Report 2006	Dec 2007	Free*
Regional Technical Statement	Feb 2008	Free *
Annual Report 2007	Dec 2008	Free *

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

Appendix 5 | Glossary & acronyms

Active	A quarry with a current planning permission producing stone in 2007.
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.
AMRI	Annual Minerals Raised Inquiry – an annual survey by the Office of National Statistics (ref PA 1007)
British Aggregates Association (BAA)	An association formed in 1999 representing over 50 mainly independent and privately owned quarry companies in the UK.
CLG	Department of Communities and Local Government (ie for England) previously ODPM
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 .
EAW	Environment Agency (Wales)
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.
Igneous Rock	Solidified molten rock, e.g. granite, dolerite
Landbank	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
Limestone	A sedimentary rock consisting mainly of calcium carbonate.
NWaRAWP	North Wales Aggregates Working Party (nb when in some cases abbreviated to NWRAP, this can be confused with the North West RAWP in England)
MPA	Mineral Planning Authority
MTAN1	Minerals Technical Advice Note 1: Aggregates (published by the Welsh Assembly in 2004)
ODPM	Office of the Deputy Prime Minister (now Department for Communities and Local Government – CLG)
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 recycled material) rock, sand and gravel suitable for construction aggregate purposes.
Quarry Products Association (QPA)	A trade association which represents over 80 quarry companies which, together, account for 90% of the supply of aggregate materials in the UK.

North Wales Regional Aggregates Working Party

Chair: Andrew Farrow
Secretary: Roger P Bennion

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Llywodraeth Cynulliad Cymru
Welsh Assembly Government

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 and 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).
Soft Sand	Otherwise known as building sand, fine sand suitable for use in such products as mortar and plaster.
SRAs	Secondary and recycled aggregates (qv)
WET	Wales Environment Trust