North Wales Regional Aggregates Working Party

Annual Report 2007

This Annual Report covers the calendar year 2007. During that period the North Wales Regional Aggregates Working Party (NWaRAWP) oficers were:

Chairman:	Gareth Jones, The Environment Directorate, Gwynedd Council, Council Office, Caernarfon, Gwynedd, LL55 1SH
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Copies of the report are available electronically on the NWaRAWP web site http://www.nwrawp-wales.org.uk and http://www.nationalstonecentre.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. Readers should use corroborative data before making major decisions based on this 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

Contents

1. 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 2007, and where appropriate (e.g. permitted reserves) relates the position at 31 December 2007. In 2007 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 2007 survey and in the majority of cases a high level of detail was provided. Therefore the sales, reserve and distribution figures are all believed to be reasonably robust unless specifically indicated to the contrary.

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 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 2007, 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 2007 can be found in Appendix 1.

2.4 There were a number of membership changes during the year which were as follows: Duncan Pollock (QPA) was replaced by Ken Hobden, Graham Bishop (WET) replaced Philip Northam on a temporary basis, A Rowley replaced Keith Frost (CEMEX, formerly RMC). Flintshire County Council provided support to Denbighshire County Council on an agency basis in respect of minerals planning services.

NWales RAWP Meetings in 2007

2.5 In 2007 the North Wales RAWP met on 19th April at Prestatyn and on 21st November at Llandudno Junction. At the first meeting, the main topics of discussion were the Annual Reports and Surveys of 2004, 2005 and 2006, and progress on the preparation of the RTS (see Section 10:RTS). On the second occasion, the Annual Reports for 2005 and 2006 were considered but the main agenda item was the draft RTS and the related consultation arrangements. The matter of safeguarding resources was also raised.

2.6 The RTS sub-group met in full on 19th April (i.e. immediately prior to the RAWP meeting) and on 21st November. In both instances, the aim was to progress the RTS. Matters relating to the consultation process and the applicability or

otherwise of Strategic Environmental Assessment (SEA) and Health Impact Assessment (HIA) were reviewed. On balance, it was agreed that the planned consultation procedures (as revised), were appropriate in scale and nature (they were also comparable for those being adopted in South Wales) and SEA/HIA were not appropriate in these circumstances. The proposed context of the RTS key issues (revised) and the use of the IMAECA were also considered. At the second RTS sub-group meeting, the discussion of the draft RTS turned mainly on MPA apportionments.

2.7 The RTS Members' Forum (comprising elected/nominated members of MPAs) convened on 11th December to consider the Draft RTS prior to release for public consultation. Discussion primarily concerned the application of the Aggregates Levy to slate, exports, environmental constraints and MPA apportionments. Subject to some minor amendments and the extension of the period for public consultation by two weeks, it was agreed that the RTS should be made available for public response, given prior scrutiny by the Assembly minister.

2.8 The RAWP Secretary was also directly involved in the preparation of the South Wales RTS. He attended meetings of South Wales RAWP, the National RAWP Secretaries' Group, the National Coordinating Group (on behalf of the Chairman) and a presentation on the secondary aggregates survey by Faber Maunsell. Liaison with the Wales Environment Trust continued.

3. SURVEY RESULTS 2007

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.

Table 1: Aggregate Sales-North Wales Region 1995-2007 (, 000 tonnes)

	SAND&GRAVEL			CRUSHED ROCK			TOTAL N WALES
	NW Wales	NE Wales	Total N Wales	NW Wales	NE Wales	Total N Wales	Aggregates Sales
1995	282	1385	**1667**	942	7586	**8528**	**10195**
1996	301	1417	**1718**	614	6413	**7027**	**8745**
1997	213	1225	**1438**	1161	6327	**7488**	**8926**
1998	189	1295	**1484**	540	7497	**8037**	**9521**
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**

Includes slate worked as a primary aggregate

3.2 Table 1 also shows the contribution of the sub-regions to crushed rock and sand and gravel sales respectively. The general downturn in sales since 1999 noted in previous reports levelled out in the period 2005-7. However, this was partly accounted for by the inclusion for the first time of slate worked as a primary aggregate (crushed rock). Sales of sand and gravel which had risen slightly in 2005, fell again thereafter.

3.3 The survey revealed overall, a slight rise in sales of primary aggregate across the region in 2006 but appeared to revert to the declining trend in 2007. Full details of sales by rock type, including slate, are set out in Table 3.

3.4 Sales of sand and gravel showed a decrease of about 9% and crushed rock an increase of about 2% compared with 2006.

3.5 In terms of production within MPA areas, which is set out in Table 2, the fall in sand and gravel sales volumes was primarily due to decreased sales in North East Wales. Concerning rock, the relatively modest overall change masks a much more variable picture, with a 9% rise in Flintshire (the largest producing area) and falls in most other areas. This trend in the west may be a reflection of the growing inroads being made into the primary market by the increasing use of slate waste.

Table 2: Sales of Aggregate by MPA 1999-2007 (tonnes)

	1999	2000	2001	2002	2003	2004	2005	2006	2007
SAND&GRAVEL									
Anglesey	0	0	0	0	0	©	©	0	0
Gwynedd	261310	370094	216197	212964	230924	245307	250213	154131	137622
Snowdonia	0	0	0	0	0	0	0	0	0
Conwy	0	0	0	0	0	0	0	0	0
Flintshire/Denbighshire	793036	585427	546512	523613	389691	292519	#	#	#
Wrexham	627036	571737	623832	617553	650771	606833	985074	1017008	925541
Total N Wales	**1681382**	**1527258**	**1386541**	**1354130**	**1271386**	**1144659**	**1235287**	**1171193**	**1063163**
CRUSHED ROCK									
Anglesey	911111	1006937	525494	485026	419079	445231	564950 (a)	289881	274236
Gwynedd	144874	262717	177063	165480	236924	292705	(a)	306628	299354
Snowdonia	9076	0	0	0	0	0	0	0	0
Conwy	1637307	1858172	1743910	1671991	1502975	1258972	1370431	1546840	1604782
Denbighshire	2615243	2332716	1719904	1226523	1066215	1037837	905581	898792	567299
Flintshire	2678418	2551903	3031829	2970787	3071685	3470501	3254442	3243542	3552637
Wrexham	0	0	0	0	0	0	0	0	0
Total N Wales	**7996029**	**8012445**	**7198200**	**6519807**	**6296878**	**6505246**	**6095404**	**6285683**	**6298308**

(a) Gwynedd crushed rock combined with Anglesey to protect confidentiality
© denotes confidential figure
Includes slate worked as a primary aggregate
 # For 2005, 2006 and 2007 Flintshire and Denbighshire sand and gravel has been combined with Wrexham to protect confidentiality

3.6 Applying the current rules on confidentiality, it has been necessary to combine sand and gravel sales in Flintshire, Denbighshire and Wrexham.

3.7 An assessment of the contribution made to aggregates supply by each authority area shows that Flintshire remains the main producer of crushed rock, providing about 56% of the regional output, an increase in recent years. Wrexham continues to be the largest producer of sand and gravel.

3.8 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.

3.9 Table 3 shows that, in terms of total rock aggregate sales (and subject to the above qualification), about 26% of crushed rock was used as roadstone with a slightly higher proportion being used coated. Approximately a further 16% was used as concrete aggregate. However those are minimum figures. Other constructional uses (including unknown uses) accounted for 45% of sales. Sales for non-aggregate purposes amounted to 14% of total sales of crushed rock. Much of this was used in cement manufacture.

3.10 Table 4 shows little change for sand and gravel in that about 45% of sales were sharp (concreting) sand and soft sand accounted for 11%. Gravel for concrete accounted for 15% of sales, a decline of 7%. About 12% of the remaining supply comprised other screened gravels with the remainder being made up of other unspecified sand and gravel. A very small (but confidential) amount of sand and gravel was used for non-aggregate purposes.

Distribution

3.11 As the 2007 survey is an 'intermediate' survey, information relating to the distribution of aggregates was not collected.

Table 3 Crushed Rock Sales: North Wales 2007 All figures in Tonnes

LIMESTONE/DOLOMITE	COATED ROADSTONE	UNCOATED ROADSTONE	CONCRETE AGGREGATE	OTHER SCREENED/ GRADED)	RAIL BALLAST	QTHER CONSTRUCTION incl UNKNOWN	TOTAL AGGREGATES	BUILDING STONE	OTHER NON-AGG. USES	TOTAL NON-AGG. USES	TOTAL
Anglesey (a)	-	(a)	-	(a)	-	(a)	(a)	4,546	-	4,546	**(a)**
NW WALES (a)	-	(a)	-	(a)	-	(a)	(a)	4,546	-	4,546	**(a)**
Conwy	57,852	22,863	238,637	403,835	-	459,390	1,182,577	5	-	5	**1,182,582**
Denbighshire	79,226	124,882	23,870	86,061	-	250,260	567,299	101	2163	2264	**569,563**
Flintshire	208,710	706,579	685,894	23,324	-	1,918,130	3,552,637	562	859,677	860,239	**4,412,876**
NE WALES	345,788	857,324	958,401	513,220	-	2,627,780	5,302,513	668	861,840	862,508	**6,165,021**
TOTAL Lst	345,788	857,324	958,401	513,220	-	2,627,780	5,302,513	668	861,840	862,508	**6,165,021**
IGNEOUS/METAMORPHIC ROCK (a)											
Anglesey (a)	(b,e)	(b,e)	(e)	-	-	(c,e)	274,236	4,546 (c)	-	4,546 (c)	**278,782**
Gwynedd (d)	(e)	99,800	(e)	(e,f)	2000	(e)	299,354	27,926	21,541	49,467	**349,021**
NW WALES	245,571	99,800	46,304	(f)	2000	178,815	573,590	32,472	21,541	54,013	**627,603**
Conwy	73,198	11,258	24,217	16,732	239,789	57,011	422,205	32	-	32	**422,237**
NE WALES	73,198	11,258	24,217	16,732	239,789	57,011	422,205	32	-	32	**422,237**
TOTAL Igneous/ Metamorphic	318,769	111,058	70,521	16,732 (f)	241,789	236,926 (f)	995,795	32,504	21,541	54,,045	**1,049,835**
TOTAL ROCK	**664,557**	**986,382**	**1,028,922**	**529,952 (f)**	**241,789**	**2,8647,06 (f)**	**6,298,308**	**33,172**	**883,381**	**916,553**	**7,214,861**

a) Anglesey Limestone production (very small) shown under igneous an metamorphic rock
b) 'Uncoated Roadstone' shown under 'Coated Roadstone'
c) All Limestone
d) Includes virgin slate quarried as a primary aggregate
e) Confidential
f) Gwynedd 'other screened..' shown under 'other construction...'

Table 4 SAND & GRAVEL SALES: North Wales 2007 All figures in Tonnes

	SOFT SAND	SHARP SAND	GRAVEL FOR CONCRETE	OTHER SCREENED GRAVEL	OTHER SAND AND GRAVEL	TOTAL AGGREGATE	INDUSTRIAL USE	TOTAL
Total NW Wales (a)	- (d)	37,409	88,200	-	12,013	137,622	-	**137,622 (d)**
Total NE Wales (b)	116,131	438,184	75,115	173,357	140,367 (c)	943,154	(c)	**943,154**
TOTAL N WALES	116,131	475,593	163,315	173,357	152,380 (c)	1,080,776	(c)	**1,080,776 (d)**

a) Gwynedd only
b) Denbs/Flints/Wrexham
c) V small amount of industrial sand included under 'Other sand and gravel'
d) In addition a further 38,800t was landed as marine soft sand

4. RESERVES AND LANDBANKS

4.1 Table 5a below shows the permitted reserves of crushed rock in the North Wales Region at the end of 2007. The reserves are shown divided into those in active sites and those in inactive sites. 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 2007

All figures in 1,000 tonnes

LIMESTONE/DOLOMITE	ACTIVE	INACTIVE	TOTAL	DORMANT
Anglesey	(a)	(a)	(a)	-
NW WALES TOTAL	(a)	(a)	(a)	-
Conwy	35700	-	35700	-
Denbighshire	18557	4541	23098	-
Flintshire (b)	107986	1635	109621	5900
NE WALES TOTAL	162243	6176	168419	5900
TOTAL LIMESTONE (a)	**162243**	**6176**	**168419**	**5900**
IGNEOUS/METAMORPHIC ROCK (a)				
Anglesey	6000	5400	11400	
Gwynedd	8147	?	8147	
NW WALES TOTAL (a)	14147	5400	19547	
Conwy	31188	-	31188	
NE WALES TOTAL	31188	-	31188	
TOTAL IGNEOUS/ METAMORPHIC ROCK	**45335**	**5400**	**50735**	
NW WALES TOTAL ROCK	14147	5400	19547	
NE WALES TOTAL ROCK	193431	6176	199607	
N WALES TOTAL ROCK	**207578**	**11576**	**219154**	**5900 (c)**

NB Dormant reserves **NOT** included in inactive reserves

(a) Anglesey limestone shown under igneous and metamorphic rock
(b) of which 43.65 Mt (active) was for non aggregate uses
(c) Incomplete total as reserves at other dormant sites not quatified

4.2 The tables show that the majority of permitted reserves of crushed rock for which returns have been made are contained in active sites (95% compared with 84% in 2006). The issuing of Prohibition Orders in recent years has reduced the amount of material contained in dormant sites on an unprecedented scale. This is described in the RTS and in earlier Annual Reports. The position in 2007 is set out in Section 6 of this Annual Report.

4.3 Table 6 below 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 that in active sites, that in inactive sites and that in dormant sites. The table shows that the majority of the calculated permitted reserve of sand and gravel is contained in active sites (87%). The amount of sand and gravel held at dormant sites in 2007 is unquantified, but very small. There are no sand and gravel reserves allocated for non-aggregate purposes.

Table 6: SAND & GRAVEL RESERVES North Wales at 31 December 2007

All Figures in 1,000 Tonnes

	ACTIVE	INACTIVE	TOTAL	DORMANT
Gwynedd	750	250	1000	-
NW WALES TOTAL	750	250	1000	-
Denbighshire/	3700	2800	6500	
Flints/Wrexham	16540	-	16540	-
NE WALES TOTAL	20240	2800	23040	-
TOTAL SAND & GRAVEL	**20990**	**3050**	**24040**	**-**

N.B. Dormant reserves **NOT** included in Inactive reserves

4.4 Table 7 below provides details of the aggregate reserves and landbank currently available if material allocated for non-aggregate uses and the known dormant reserves are subtracted from the total landbanks. 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.

4.5 It is clear from the landbank figures that crushed rock reserves throughout most of North Wales are large with landbanks well in excess of 20 years in most areas (with the exception of Flintshire limestone). 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 a healthy 23-4 years in North East Wales, but stands at only about 5-6 years in North West Wales, ie below the 7 year minimum recommended in MTAN1.

4.6 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.

4.7 With two exceptions, most of the landbank lives show little change from the 2006 survey. The only relatively marked change is in respect of sand and gravel in North East Wales, where the landbank declined by 5-6 years, again reflecting a change in permitted reserves (a reduction of 3Mt). Average annual sales here increased by only c80kt, ie insufficient to explain the landbank fall. In this last case, it should be noted that technically, the large increase in permitted reserves resulting from the permission at Borras should have been recorded in 2007 (and not in the 2006 Report) as the decision related to January 2007; however this adjustment has no bearing on the landbank life change just noted.

Table 7: RESERVES & LANDBANKS FOR AGGREGATES* North Wales 2007

LIMESTONE	2005 Aggregate Sales (Million Tonnes)	2006 Aggregate Sales (Million Tonnes)	2007 Aggregate Sales (Million Tonnes)	Average Sales (Million Tonnes)	Permitted Reserves at 31/12/07 (Million Tonnes)	Landbank (years)
Anglesey (a)	(a)	(a)	(a)	(a)	(a)	(a)
NW WALES (a)	(a)	(a)	(a)	(a)	(a)	(a)
Conwy	0.9	1.03	1.18	1.04	35.7	34.3
Denbighshire	0.9	0.9	0.56	0.79	23.1	29.2
Flintshire (b)	3.3	3.24	3.55	3.36	65.95	19.63
NE WALES	5.1	5.17	5.30	5.19	124.8	24.04
TOTAL LIMESTONE (a)	5.1	5.17	5.30	5.19	168.4	24.04
IGNEOUS/ METAMORPHIC ROCK						
Anglesey (a)	(c)	0.3	0.27	0.29 (d)	11.4	39.3
Gwynedd	(c)	0.3	0.30	0.30 (d)	8.1	27.0
NW WALES	0.6	0.6	0.57	0.59	19.5	33.1
Conwy	0.5	0.52	0.42	0.48	31.2	65
NE WALES	0.5	0.52	0.42	0.48	31.2	65
TOTAL IGNEOUS & METAMORPHIC ROCK (a)	1.1	11.1	0.99	1.07	50.7	47.4
TOTAL ROCK	**6.2**	**6.3**	**6.30**	**6.26**	**155.95**	**24.91**

SAND & GRAVEL	2005 Aggregate Sales (Million Tonnes)	2006 Aggregate Sales (Million Tonnes)	2007 Aggregate Sales (Million Tonnes)	Average Sales (Million tonnes)	Permitted Reserves at 31/12/07 (Million Tonnes)	Landbank (years)
Gwynedd	0.25	0.15	0.14	0.18	1.0	5.5
NW WALES	0.25	0.15	0.14	0.18	1.0	5.5
Denbighshire/Flintshire/ Wrexham (e)	1.0	1.0	0.93	0.98	23.0	23.5
NE WALES	1.0	1.0	0.93	0.98	23.0	23.5
TOTAL SAND & GRAVEL	**1.3**	**1.2**	**1.06**	**1.19**	**24.0**	**20.17**

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) excludes 43.65 Mt reserves of limestone for non aggregates

(c) confidential

(d) assumes 2005 sales are divided equally

(e) MPAs combined to protect confidentiality

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. 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, may substitute for traditional primary aggregates. Small amounts of river and canal dredged materials (mainly silt rather than sand or gravel) are also landed in the region (mainly at Mostyn) and have been used as low grade fill. Unlike South Wales, there are no arisings (or stockpiles) of pulverised fuel ash (pfa) or furnace slag now 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 **Slate Waste**

Sales of slate worked as primary aggregate (ie 'as dug' from the ground as opposed to recovered from tips) are included in figures for igneous and metamorphic rock in Table 3 above.

In this region, the main source of secondary aggregates is waste slate. This has traditionally been surveyed directly by the RAWP, but also latterly by WET. Although there is one dominant producer, there are now a number of other firms in the business. The data available is a little confusing in that it is not always clear whether virgin slate or tipped material is being used and some uses such as decorative slate chippings used architecturally and in gardens etc as well as granules employed in making roofing felt may be classed as non-aggregates (for RAWP purposes, these materials = c170,000t in 2007, are assigned to aggregates). On this basis, the amount processed rose by 41% in 2007, ie from 729,000 to 1,028,000t and form part of a continuing trend (Table 8) (or 18%, if the 'non-aggregates' noted above are taken at face value).

Two thirds of the sales were for bulk fill; most of the remainder was for road and concrete aggregate. The increase can be attributed to two main factors. Firstly a major road scheme near Blaenau Ffestiniog utilized large volumes. Secondly, the companies involved have actively marketed the material, with shipments being made by sea in the latter part of the year to Liverpool and Manchester Docks. Slate waste from Gwynedd is also finding a market in Anglesey. The WET figures generally substantiate the RAWP Survey results. In the Chancellor's Pre-Budget Statement in late 2007 it was announced that the Aggregates Levy on primary aggregates was to be raised (more or less in line with inflation) in 2008 for the first time since its introduction, i.e. from £1.60/tonne to £1.95/tonne.

This increase in slate usage is apparently beginning to have an impact by taking a larger share of total aggregate sales in North West Wales, although the full effect was partially masked by the completion of the A55/A5 across Anglesey which itself gave rise to a big increase in local rock sales during construction work in the early 2000s. There may be other factors involved which are only likely to become clearer with the passage of time.

Table 8: N Wales: Recycling of slate waste as aggregates 1999-2007

	Thousand Tonnes
1999	262 (a)
2000	362 (a)
2001	379 (a)
2002	593 (a)
2003	587 (a,b)
2004	625 (a)
2005	549 (a)
2006	729
2007	1033

Source: N Wa RAWP Surveys

a) Data for these years may include some virgin slate (ie 'primary aggregate') used as aggregate – up 20% in some years. In 2007, this was grouped with primary aggregate – see Table 3.

b) Incomplete figure – lack of full returns

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

5.4 In terms of reserves of slate waste, although difficult to assess with any precision, it has been estimated that there are about 79Mt of slate waste available to be worked. Of this some 39Mt are known to exist with planning permission in Gwynedd but the true figure may be more than twice this. Reserves of some 0.5Mt have been declared in Denbighshire in 2006.

Clay, Shale and Colliery Spoil (minestone)

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. Although this material has been used in the past for road schemes around Queensferry, the extent to which these sites made a significant contribution to the major A550/M56 Drome Corner scheme as fill material during 2007 is unknown.

5.6 In October 2007, an application by Bersham (Glenside) Ltd for the reclamation of Bersham Colliery Tip was refused by Wrexham CBC on the following grounds:

- The proposal would result in the removal of the last surviving example of a substantial "conical" tip in the Denbighshire Coalfield, and would thus have a significant impact on the setting of the Bersham Colliery Headgear, a Scheduled

Ancient Monument and a Listed Building, and the other Listed former colliery buildings;

- Inadequate information on the impact of the volume of traffic likely to be generated;

- Inadequate information regarding the environmental impact - in particular slope stability and the danger associated with combustion.

Had it been permitted, the development would have provided a significant source of secondary aggregate.

In Wrexham, colliery shale from the former Llay Main Tip continues to be extracted and used in cement manufacture at the Padeswood Works in Flintshire. However, the quantities involved are not known.

5.7 The section below summarises the content of a paper considered by the NWaRAWP, which sought to rationalise some of the ongoing issues relating to the assessment of tonnages of CD&EW used for aggregates in North Wales. The problems are by no means confined to the region. A copy of the paper will be placed on the NWaRAWP website.

5.8 From the 1990s onwards, a series of studies have been carried out to ascertain the amount of CD&EW recycled as aggregates in the region. MTAN 1 (2004) stressed the priority to be given to the use of recycled aggregates. In summary, the recent surveys relate to 2001, 2003, 2005, 2005/6, 2006 and 2007. Unfortunately, most do not present specific figures for the region as defined by the N Wales RAWP.

5.9 The N Wales RTS, based on earlier data, estimated that usage of CD&EW in N Wales was c 1Mt in c2005. From a detailed study of all construction waste by the Environment Agency (Wales), it can be calculated the usage in c2005/6 was about 1.11Mt. Using some of the North/South Wales proportions from these earlier studies and applying them to the whole Wales figure from the Faber Maunsell study, one arrives at a N Wales level of 0.88Mt for 2005/6. In the context of previous uncertainties, the correlation between these three data sets is remarkably close.

5.10 In contrast, the Wales Environment Trust information on first inspection is substantially out of line in being much lower. However, the latter survey, while not covering all sites, at 185,000t does compare very closely with the 189,000t for all sales of CD&EW made **off-site** estimated for the region using the EAW data.

5.11 Whereas these signs offer some encouragement (and in particular point to the importance of very careful interpretation), it should not detract from the need for significant improvement in CD&EW data collection.

5.12 Attempts were also made to build up a definitive list of CD&EW recycling sites, but significant differences became apparent between the lists of the EAW, WET and local authorities to the extent that any compound list would not be particularly informative. In the case of the EAW schedule (a long list), this is already held by the Regional Waste Group.

5.13 One further key point emerged from this investigation. A number of surveys of secondary aggregates have included waste from aggregates quarries, often suggesting that output is running into many millions of tonnes. This appears to be very largely based on estimates rather than real data. It became evident that there were a number of

potentially important short-comings; for example some of the lower grade quarried aggregates are used and as such are already recorded in RAWP and AMRI surveys; some is required for landscaping; much probably includes the short term relocation of material before reinstatement and some will be stockpiled for use in the longer term. In summary, much of the material concerned cannot be logically counted as 'waste' in the conventional sense. However it is acknowledged that the advent of the Aggregates Levy has resulted in increasing stockpiles of material perhaps only marginally suited to produce aggregates at many sites. In response to this situation, most companies are looking into the best means of reducing these volumes.

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6: PLANNING APPLICATIONS AND DORMANT SITES

The following information has been provided by Mineral Planning Authorities in respect of applications and decisions in calendar year 2007.

Anglesey

An appeal against review conditions at Hengae Quarry, Llangaffo was pending at the end of the year. The other dormant sites, namely Bwlch Gwyn Quarry at Gaerwen and Dinmor Quarry were both programmed for consideration, with Dinmor being under review in 2007.

Gwynedd

Planning permission was granted in 2007 to extract material from a former sand and gravel site at Llwyn Isaf, Clynnog as part of a larger project to prepare a landfill facility for municipal waste, following the decision to close the Cilgwyn tip. The work was due to begin in Summer 2008. Permission was also granted to rework tips at Trefor Quarry to supply a contract to improve the A499. At the same quarry, approval was given to work material to make curling stones, mainly for export to Canada.

An extension of time was approved at the Gwynedd Skip Hire site in Cibyn, Caernarfon and a proposal by Blaen Cefn Services was allowed in respect of a waste transfer station at Penrhryndeudraeth.

An application was made to remove sand at Llanystumdwy, prior to preparation of a concrete base for a composting facility.

In respect of dormant sites, the main large reserves in this category were removed at five locations on Llŷn in 2003 using Prohibition Orders. 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 2007, nor any dormant aggregate sites.

Denbighshire

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

An application to extend the time and limits of working (within the overall curtilage of the planning permission) was made in 2007.

Concerning dormant sites, Prohibition Orders served in earlier years on a total of six sites were confirmed in 2007.

Flintshire

A prohibition order was served on Bryn Gwyn, a dormant Millstone Grit and Carboniferous Limestone site. The owner lodged an objection with the Welsh Assembly Government. An Inquiry in Public began in 2007 and continued into 2008 A planning application to extend the time for working Trimm Rock quarry was made in 2007.

Wrexham

On 18th January 2007 planning permission was granted for the extraction of 17.7 Mt of sand and gravel from Borras Quarry. Approximately 11.8 Mt of this comprise new reserves that will come from quarry deepening and a major lateral extension. Owing to the scale of the development, it clearly has a major impact on the North-East Wales landbank. Please note that this decision was recorded in error in the 2006 report as having been made in that year.

7: 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 2006/Current Policy document	LDP Adoption Date (Anticipated)
Anglesey	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. Work continued on the Local Development Plan with a view to pre-deposit consultation in 2008. Current policy; Gwynedd Structure Plan 1993 and Gwynedd SPG – Minerals, 1996-2006, adopted by Anglesey March 1996	
Gwynedd	The Inspector's report on the Gwynedd Unitary Development Plan was received in 2007 and the authority has provided response to the Assembly. 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	
Snowdonia N.P.	In January 2005 it was resolved to suspend work on the UDP 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. Pre-deposit consultation on alternatives, option proposals and preferred options was due to begin in early 2008. Current policy document; Eryri Local Plan adopted Nov. 1999	
Conwy	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. Current policy documents: Gwynedd 1993 and Clwyd 1999 Structure plans	
Denbighshire	The Local Development Document was at the Regulation 15 stage in 2007. A Preferred Strategy is expected to be issued for consultation in 2008. Current policy document: UDP, Adopted 2002	
Flintshire	A UDP public inquiry was held during 2007, with adoption expected in 2009. After that time work will commence on the Local Development Plan. Current policy; Clwyd Structure Plan 1st Alteration 1991	
Wrexham	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 2009 Current policy: Wrexham UDP, adopted February 2005	

8: REGIONAL DEVELOPMENTS AND 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 2007 and in future years. It is not intended to be quantitative.

8.2 The longer term influences of recycling slate waste in apparently suppressing output of primary aggregates in the western part of the region have already been referred to (see Section 5).

8.3 In addition and as part of a broader trend in the UK, there is growing evidence that the larger national/international companies are withdrawing from what they presumably consider to be marginal markets or operating units. None of these larger concerns now work quarries in Gwynedd or Anglesey, although they do still operate 'added value' (eg coating) plants in the area. In most cases, quarries have been closed, generally as the first phase of a rationalisation programme, but latterly they have been taken on (often processing at a much smaller scale) by local enterprises. As most sites were always leased, the changes are usually in respect of the leaseholder rather than site owner. The local availability of slate waste and its exemption from levy have probably accentuated this trend in the region.

Anglesey

8.4 Site work began on Parc Cybi a strategic industrial development near Holyhead. During the year a proposal was made in respect of a large scale retail complex near Menai Bridge. 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.

Gwynedd

8.5 Work started 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). The main road schemes active in the year were the A470 improvements at Crimea Pass, north of Blaenau Ffestiniog to Cancoed (using c 0.4Mt) of slate waste and the A499 Clynnog Fawr By-pass (Aberdesach to Llanaelhaearn) scheme which utilised waste tips from Trefor Quarry. Work on the Victoria Dock Scheme, Caernarfon was completed in the year and was progressing at Llandegai Industrial Estate, Bangor.

8.6 The Tudor Griffiths Group took over the sand and gravel operations of Tarmac, both onshore (Cefn Graianog) and at the Port Penrhyn marine wharf.

Snowdonia

8.7 The Crimea Pass road improvements (see Gwynedd) were in part located in the National Park. There were no other significant construction developments in 2007.

Conwy

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

Denbighshire

8.9 In 2007 the only significant road work being undertaken was on the A5 near the Rhug Creamery, Corwen. 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.

Flintshire

8.9 A plan to build 300 houses was being implemented in the year at the former Lane End Brickworks, at Buckley (the works closed in 2004 and was the last representative of an extensive 200 year old ceramics industry).

A large scale proposal to improve the A494 at Queensferry was put forward at the beginning of the year and was the subject of a public inquiry in the Autumn. The inspector's report was due in early 2008. Another large scheme, for new housing at Garden City, Sealand on Deeside was under consideration.

Wrexham

8.10 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. 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. In 2007 geological field work began to move into the North Wales Region with the mapping of sheet 150 (Dinas Mawddwy) in Snowdonia National Park.

9.3 The programme also supports the work of the North and South Wales Regional Aggregates Working Parties.

9.4 The IMAGIN project, which started in 2005, continued through 2007 although it was not at that point still funded by the Welsh Assembly. Its aim is to facilitate the evolution of a strategic framework within which the development and exploitation of marine aggregate resources from the Irish Sea may be sustainability managed, with minimum risk of impact on marine and coastal environments, ecosystems and other marine users. Initially it was a two year programme supported by INTERREG (European Interregional Fund), WAG, the Irish Government and Industry.

9.5 A survey by Faber Maunsell commissioned by the Assembly of waste arisings in Wales used in construction in 2005, reported in 2007. A further study of wastes produced by the construction industry as a whole in Wales was conducted by the Environment Agency (Wales) for 2006-7 and finalised in 2008 (go to http://www.environment-agency.gov.uk/regions/wales/816243/?lang=_e). The findings of both studies and of surveys by WET are discussed in Chapter 5.

9.6 A number of research projects relating to the managed aggregates supply system supported by the Aggregates Levy Sustainability Fund commenced in 2007 and were due to report in 2008. Although these mainly (in one case, exclusively) focused upon English issues, it is possible that their findings could have implications for North Wales as the North West of England is so heavily dependent upon sources in this region. These reports will be made available electronically via www.sustainableaggregates.com (go to 'Reports', then see project numbers SAMP 4/01, 4/02, 4/03 and 4/04; this last report, covering developments since the Verney Report was published in 1976, contains a section on Wales).

10. 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. The outcome of that process will be described more fully in the 2008 Annual Report. 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 and is summarised below in Table 10. These figures should be regarded as provisional at this stage as it may be necessary to take into account amendments made during the 2008 public consultation process. However it is evident that rock landbanks are already generally sufficient (see Section 4), but that further provision is required for sand and gravel in most areas.

Table 10: Additional provision needed in the five years 2007-11

	Crushed Rock	Sand and Gravel
Anglesey	-	1.5
Gwynedd	-	1.0-1.5
Snowdonia	-	-
Conwy	-	-
Denbighshire	-	1.0
Flintshire	-	(a)
Wrexham	(b)	(c)

a) It was noted that permitted reserves were only just sufficient to maintain supply over the 12 year RTS period
b) The possibility of making a small allocation within environmentally acceptable areas was to be considered; in the event of this not proving possible, liaison with Flintshire and Denbighshire to examine the practicalities of sustaining supplies from N E Wales should be initiated

c) During the RTS process a very large volume of reserves was permitted at Borras, obviating the need to make additional allocations.

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.

Appendix 1. NWaRAWP Membership 2007

as at 31/12/07

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

Gwynedd
Cllr R. Hywel Wyn Williams
Cllr Gwilym Williams

Conwy
Cllr Tony Tobin

Snowdonia NP
Peter Weston
Iolo ap Gwyn

Flintshire
Cllr Gareth Williams
Cllr Jim Jones

Wrexham CBC
Cllr Mark Pritchard
Cllr M H R Moysen

Denbighshire
Cllr Bob Barton

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

Appendix 2. Sites Producing Aggregates in 2007

Unitary Authority	Site	Material	Grid Reference
ANGLESEY	Cae'r Glaw (Gwalchmai)	Igneous	381766
	Gwyndy	Igneous	395795
	Hengae	Igneous	440687
	Rhuddlan Bach	Limestone	486806
	Nant Newydd	Limestone	481811
	Bryn Engan	Limestone	507814
	Aber Strectrt	Limestone	503 866
GWYNEDD	Garth (Minfordd)	Igneous	259339
	Nanhoron	Igneous	
	Trefor/Yr Eifl No 2	Igneous	
	Fferm Graianog	Sand & Gravel	245349
	Blaen y Cae, Bryncir	Sand & Gravel	248345
	Port Penrhyn, Bangor	Sand (Marine)	259373
	Penrhyn	Slate Waste	262365
	Oakeley	Slate Waste	269347
	Pen yr Orsedd	Slate Waste	250354
	Llechwedd	Slate Waste	
	Manod & Graig Ddu	Slate Waste	
SNOWDONIA	None	None	-
CONWY	St. George	Limestone	970373
	Raynes	Limestone	890780
	Penmaenmawr	Igneous	702755
DENBIGHSHIRE	Graig (Llanarmon)	Limestone	320356
	Aberduna	Limestone	320361
	Maes y Droell	Sand & Gravel	322356
	Moel y Waen	Clay/Shale	319348
FLINTSHIRE	Pant	Limestone	319730
	Pant y Pwll Dwr	Limestone	319732
	Trimm Rock	Limestone	319366
	Hendre	Limestone	319368
	Aberdo/Bryn Mawr	Limestone	318372
	Cefn Mawr	Limestone	320363
	Maes Mynan	Sand & Gravel	311372
	Fron Haul	Sand & Gravel	315370
WREXHAM	Borras	Sand & Gravel	364524
	Ballswood	Sand & Gravel	350563

Appendix 3. Dormant/Inactive Sites included in 2007 Survey

Unitary Authority	Site	Material	Grid Reference
ANGLESEY	Bwlch Gwyn	Igneous	485730
	Tywyn Trewan	Sand/Ash	321747
	Creigiau	Sandstone	488860
	Dinmor	Limestone/dolomite	631813
GWYNEDD	Cae Efalwyd	Sand & Gravel	246352
	Tan y Bryn	Sand & Gravel	246352
	Gro Sarnau	Sand & Gravel	-
	Pentre Uchaf	Sand and Gravel	
SNOWDONIA	None	None	-
CONWY	Plas Gwilym	Limestone	880780
DENBIGHSHIRE	Burley Hill	Limestone	320360
	Graig Denbigh	Limestone	305366
	Pant Y Gwlanod	Limestone	320357
FLINTSHIRE	Grange	Limestone	316375
	Bryn Gwyn	Limestone & Sandstone	321361
	Cambrian	Limestone & Silica Rock	321371
	Ddol Uchaf	Sand & Gravel	315371
	Fagl Lane	Sand & Gravel	330359
	Kinnerton Bank	Sand & Gravel	333360
	Hendre East	Sand & Gravel	318368
	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 (Consultative draft)	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 and www.nationalstonecentre.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 AND 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 NWRAWP, 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.
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