North Wales Regional Aggregates Working Party

Annual Report 2006

This Annual Report covers the calendar year 2006. During that period the North Wales Regional Aggregates Working Party (NWaRAWP) Officers were:

Chairman: Iwan Evans (January - March) Gareth Jones (March onwards)

Secretary: Jeremy Gibbins (January – March)

The Environment Directorate, Gwynedd Council, Council Office, Caernarfon, Gwynedd, LL55 1SH

However, in June 2006 Ian Thomas was appointed Technical Secretary and this report was compiled by Ian Thomas and Karen Down, National Stone Centre, Wirksworth, Derbyshire, DE4 4LS as commissioned by the Welsh Assembly Government. (see introduction).

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

Acknowledgement

The NWaRAWP wishes to acknowledge the Welsh Assembly Government for its financial support, which has enabled this report to be published. The working party also wishes to record its' thanks to all those in the Industry and the Mineral Planning Authorities in the North Wales region who have contributed to the production of the report.

The statistics and statements contained in this report are based on information from a large number of mainly third party sources and are compiled to an appropriate level of accuracy and verification. 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.

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 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 2006, and where appropriate (e.g. permitted reserves) relates the position at 31 December 2006. In 2006 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 or reserves. Reserve data in this report is generally as provided by quarry operators or is calculated by MPAs based on information provided in 2005 with sales for 2006 deducted.

1.4. As 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, in the interest of clarity, it was felt appropriate to set them out here.

1. In the period after local government reorganisation, in the mid 1990s the RAWP secretariat was provided by Flintshire County Council (and prior to that by Clwyd County Council).

2. For numerous reasons, largely outside the RAWP's control, RAWP reports were not produced for some years in the late 1990s. Thus in December 2001, the National Stone Centre (NSC) was invited to attempt to revive surveys for 1996-2000 and produce reports, which it did (together with data for 1995 recast in the form of the new MPA areas) and submitted separate annual reports in September 2002. In 2003, NSC was asked to collate these into a single report, which was made publicly available by Flintshire CC later that year.

3. Meanwhile in 2002, the secretariat passed to Roger Bennion and the Chair to Iwan Evans both then at Gwynedd Council. Under their auspices, the 2001, 2002 and 2003 surveys were conducted and related annual reports published by that Council.

4. In the last few weeks of 2004, Jeremy Gibbins of Gwynedd Council took over the secretariat until his retirement in March 2006 and coincidentally, Iwan Evans also retired on health grounds at this point.

5. In parallel, severe delays were being experienced in conducting the 2004 survey on account of the reluctance of QPA members to participate until issues of data confidentiality had been resolved nationally. The latter was effected in October 2005.

6. Trawls of N Wales MPAs for officers willing to take on the secretariat proved unsuccessful, so in March 2006, the Welsh Assembly Government invited competitive tenders to carry out this work from 1st June 2006 to 31st May 2007. As a result, the National Stone Centre (NSC) was commissioned to provide the Technical Secretariat for this period. The commission was extended in September 2007 to allow the completion of the Annual Report 2006 and the Regional Technical Statement.

7. This report has been compiled for the RAWP under this last commission, and as in the past is based largely on information supplied by the quarry operators to the Mineral Planning Authorities and in turn, to the NSC.

1.5 A high level of returns was received for the 2006 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.

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. Each authority is also the Mineral Planning Authority (MPA): Anglesey; Gwynedd; Conwy; Denbighshire; Flintshire and Wrexham and the Snowdonia National Park.

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, Welsh Assembly Government (WAG), the Office of the Deputy Prime Minister (ODPM - since 2007, the Department for Communities and Local Government - DCLG), 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 March 2006, Iwan Evans, Head of Planning and Transportation at Gwynedd retired as Chair. At this time Gareth Jones, also of Gwynedd who had been acting as chair since 2005 owing to Iwan Evans being on long term leave through illness, was appointed as Chair. Gwynedd Council was contracted to provide secretarial services to the NWaRAWP until March 2006 after which time this role passed to Ian Thomas at the National Stone Centre (see para 1.4 above). A full list of membership at the end of 2006 can be found in Appendix 1.

2.4 There were a number of membership changes during the year which were as follows: Sue Martin (WAG) replaced Chris Morgan, Carolyn Warburton (WAG) became a member, Dafydd Gareth Jones (Gwynedd) replaced Jeremy Gibbins, Ian Pearson (Marshalls PLC/BAA) replaced Peter Huxtable, Graham Gibson replaced Paul Charmbury, Philip Northam (WET) replaced Rebecca Huck, Keith Frost (Cemex/QPA) replaced Jo Davies (RMC/QPA), Wynford Rowlands (Wrexham County Borough Council) replaced John Ellis and Richard Millard (QPA) replaced Viv Russell.

Meetings

<u>N Wales RAWP</u>

2.5. The full N Wales RAWP met on 25th January 2006 at Mold, Flintshire and on 22nd November at Llandudno Junction. At the January meeting Members discussed progress with the Regional Technical Statement (RTS) . At the November

meeting a significant part of the time was devoted to considering a series of statements that had been prepared by Members to inform the RTS. Statements were presented by the Welsh Assembly Government, QPA, BAA, WET, the regional MPAs, and the slate and marine aggregate industries. These statements followed a series of individual interviews with the presenters by the Technical Secretary over the proceeding six months. Together they provided significant inputs to the RTS. It was also acknowledged that the use of the AM2005 Survey information was a vital component to the apportionment process. There was also an update on the AM2005 survey and 2005 Annual Report.

N Wales RAWP Technical Sub Group

2.6 A Technical Sub Group had been convened in the past to advise the RAWP on matters of a particular technical nature. This group now had been re-constituted as the RTS Sub Group. It met on 6th January. At this meeting QPA Wales set out a modified position. They expressed the view that information from the AM2005 survey should be fed into the RTS process. However, there was pressure to move ahead with the RTS before this information would be available. Concern was expressed by the sub-group regarding the thoroughness of the consultation exercise for the draft Issues Paper – the response had been disappointing. The TSG recommended a short period for re-consultation to encourage responses from all members of the RAWP. The Sub Group met again with the full RAWP on 22nd November. That meeting is described above.

N Wales RTS Forum

2.7 The RTS Forum did not meet during 2006 since there were no policy matters to be decided during the year.

3. SURVEY RESULTS 2006

Sales

3.1 Table 1 shows the total aggregate sales both in 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 relies mainly on igneous rock for crushed rock aggregate, mostly 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 1995-2006 (, 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**	**10316**
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**

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 downturn in sales since 1999 noted in previous reports was slightly reversed in the case of crushed rock in 2006. However, this was partly accounted for by the inclusion for the first time of slate worked as a primary aggregate. Sales of sand and gravel which had risen slightly in 2005 fell again to levels only marginally above the low of 2004.

3.3 The survey reveals overall a slight rise in sales of primary aggregate across the region compared with 2005. This is the first time for seven years that sales have not fallen. The generally level trend appears to reflect the state of the market in the region in 2006. Full details of sales by rock type, including slate, are set out in Table 3.

3.4 Individually, sales of sand and gravel showed a decrease of about 5% and crushed rock an increase of about 3% compared with 2005.

3.5 In terms of production within Unitary Authority areas, which is set out in Table 2, the fall in sand and gravel sales was primarily due to decreased sales in Gwynedd. These were in part offset by a rise in sales in the combined area of Wrexham, Flintshire and Denbighshire. With regard to crushed rock, a modest increase in sales in Conwy was offset by a modest fall in Flintshire and Denbighshire. This continues the trend seen in 2005.

Table 2: Sales of Aggregate by Unitary Authority 1999-2006 (tonnes)

	1999	2000	2001	2002	2003	2004	2005	2006
SAND&GRAVEL								
Anglesey	0	0	0	0	0	©	©	0
Gwynedd	261310	370094	216197	212964	230924	245307	250213	154131
Snowdonia	0	0	0	0	0	0	0	0
Conwy	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
Total N Wales	**1681382**	**1527258**	**1386541**	**1354130**	**1271386**	**1144659**	**1235287**	**1171193**
CRUSHED ROCK								
Anglesey	911111	1006937	525494	485026	419079	445231	564950	289881
Gwynedd	144874	262717	177063	165480	236924	292705	*	306628
Snowdonia	9076	0	0	0	0	0	0	0
Conwy	1637307	1858172	1743910	1671991	1502975	1258972	1370431	1546840
Denbighshire	2615243	2332716	1719904	1226523	1066215	1037837	905581	898792
Flintshire	2678418	2551903	3031829	2970787	3071685	3470501	3254442	3243542
Wrexham	0	0	0	0	0	0	0	0
Total N Wales	**7996029**	**8012445**	**7198200**	**6519807**	**6296878**	**6505246**	**6095404**	**6285683**

*** Gwynedd crushed rock combined with Anglesey to protect confidentiality**
© denotes confidential figure
Includes slate worked as a primary aggregate
 # For 2005 and 2006 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 As assessment of the contribution made to aggregates supply by each authority area shows that Flintshire remains the main producer of crushed rock, providing about 52% of the regional output, a similar share to previous 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 unfortunately not provided by 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 about 28% 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 42% of sales. Sales for non-aggregate purposes amounted to 8% of total sales of crushed rock. Much of this was used in cement manufacture.

3.10 Table 4 shows that about 47% of sand and gravel sales were sharp sand, a proportional increase of 11% on 2005 sales. Soft sand accounted for 7%, a fall of about 10% compared with 2005. Gravel for concrete accounted for 22% of sales, the same as in 2005. Just under 12% 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 was used for non-aggregate purposes.

Distribution

3.11 Owing to the 2006 survey being an intermediate survey, information relating to the distribution of aggregates is not available.

Table 3 Crushed Rock Sales: North Wales 2006 All figures in Tonnes

LIMESTONE/DOLOMITE	COATED ROADSTONE	UNCOATED ROADSTONE	CONCRETE AGGREGATE	OTHER SCREENED/ GRADED AGG.	RAIL BALLAST	OTHER CONSTRUCTION INCL. UNKNOWN	TOTAL AGGREGATES	BUILDING STONE	OTHER NON-AGG. USES	TOTAL NON-AGG. USES	TOTAL
Anglesey	0	0	2,950	0	0	2,800	5,750	5,331	360	5,691	**11,441**
NW WALES	0	0	2,950	0	0	2,800	5,750	5,331	360	5,691	**11,525**
Conwy	144,831	56,652	125,940	0	0	700,187	1,027,610	141	10,422	10,563	**1,038,173**
Denbighshire	182,895	0	61,361	51,637	0	602,899	898,792	35	0	35	**898,827**
Flintshire	281,780	617,724	723,064	557,244	0	1,063,730	3,243,542	567	510,425	510,992	**3,754,534**
NE WALES	609,506	674,376	910,365	608,881	0	2,366,816	5,169,944	743	520,847	521,590	**5,691,534**
TOTAL Lst	609,506	674,376	913,315	608,881	-	2,369,616	5,175,694	6,074	521,207	527,281	**5,703,059**
IGNEOUS/METAMORPHIC ROCK											
Anglesey	142,751	62,146	61,205	0	0	18,029	284,131	0	0	0	**284,131**
Gwynedd*	65,067	64,477	20,808		1,305	154,971	306,628	0	0	0	**306,628**
NW WALES	207,818	126,623	82,013	0	1,305	173,000	590,759	0	0	0	**590,759**
Conwy	97,367	59,797	30,014	0	230,836	101,216	519,230	20	0	20	**519,250**
NE WALES	97,367	59,797	30,014	0	230,836	101,216	519,230	20	0	20	**519,250**
TOTAL Igneous/ Metamorphic	305,185	186,420	112,027	-	232,141	274,216	1,109,989	20	-	20	**1,110,009**
TOTAL ROCK	**914,691**	**860,796**	**1,025,342**	**608,881**	**232,141**	**2,643,832**	**6,285,683**	**6,094**	**521,207**	**527,301**	**6,813,068**

*** includes slate worked as a primary aggregate**

Table 4 SAND & GRAVEL SALES: North Wales 2006 All figures in Tonnes

	SOFT SAND	SHARP SAND	GRAVEL FOR CONCRETE	OTHER SCREENED GRAVEL	OTHER SAND AND GRAVEL	TOTAL AGGREGATE	INDUSTRIAL USE	TOTAL
Gwynedd	1,614	61,143	44,737	35,879	10,758	154,131	-	**154,131**
Denbighshire/ Wrexham/Flintshire	87,714	490,043	212,982	100,888	125,381	1,017,008	21,992	**1,039,000**
Total NW Wales	1,614	61,143	44,737	35,879	10,758	154,131	-	**154,131**
Total NE Wales	87,714	490,043	212,982	100,888	125,381	1,017,008	21,992	**1,039,000**
TOTAL N WALES	89,328	551,186	257,719	136,767	136,139	1,171,139	21,992	**1,193,131**

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 2006. 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 is derived.

Table5a: ROCK RESERVES North Wales at 31 December 2006

All figures in 1,000 tonnes

LIMESTONE/DOLOMITE	ACTIVE	INACTIVE	TOTAL	DORMANT
Anglesey	141	0	141	500
NW WALES TOTAL	141	0	141	0
Conwy	35,967	0	35,967	0
Denbighshire	17,695	6,255	23,950	11,680
Flintshire	122,215	1,485	123,700	12,000
NE WALES TOTAL	175,877	7,740	183,617	23,680
TOTAL LIMESTONE	**176,018**	**7,740**	**183,758**	**23,680**
IGNEOUS/METAMORPHIC ROCK				
Anglesey	9,400	2,500	11,900	0
Gwynedd	7,968	500	8,468	0
NW WALES TOTAL	17,368	3,000	20,368	-
Conwy	31,677	0	31,677	0
NE WALES TOTAL	31,677	0	31,677	0
TOTAL IGNEOUS/ METAMORPHIC ROCK	**49,045**	**3,000**	**52,045**	**-**
NW WALES TOTAL ROCK	17,509	3,000	20,509	0
NE WALES TOTAL ROCK	207,554	7,740	215,294	23,680
NORTH WALES TOTAL ROCK	**225,063**	**10,740**	**235,803**	**23,680**

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

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 (84%). In Flintshire 17 Prohibition Orders have been confirmed by the Welsh Assembly Government, mainly for limestone and silica stone working. No reserve has ever been attributed to the

sites. However, based on the area of the permissions it has been estimated that there was a potential reserve of at least 197.1 million tonnes. In Gwynedd and Snowdonia National Park, Prohibition Notices have also been served and confirmed in recent years. This has significantly reduced the amount of material contained in dormant sites.

4.3 Table 5b indicates the amount of crushed rock reserve allocated for non-aggregate uses. As a proportion of total rock this represents about 19% of permitted reserves.

Table5b: Subdivision of the above

All figures in 1,000 tonnes

LIMESTONE/DOLOMITE RESERVES FOR INDUSTRIAL USES

	ACTIVE	INACTIVE	TOTAL	DORMANT
Anglesey	9	0	9	0
Conwy	0	0	-	0
Denbighshire	0	0	-	0
Flintshire	45,000	0	45,000	0
TOTAL	**45,009**	**-**	**45,009**	-

4.4 Table 6 below indicates the permitted reserve of sand and gravel in the North Wales Region at the end of 2006. 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 (89%). The amount known to be held in dormant sites is small, standing at 0.23Mt across the region. Unknown quantities of sand and gravel in dormant sites are not thought to be significant. There are no sand and gravel reserves allocated for non-aggregate purposes.

Table 6: SAND & GRAVEL RESERVES North Wales at 31 December 2006

All Figures in 1,000 Tonnes

	ACTIVE	INACTIVE	TOTAL	DORMANT
Gwynedd	787	25	812	225
NW WALES TOTAL	787	25	812	225
Denbighshire/ Flintshire/Wrexham	23,131	2,820	25,951	0
NE WALES TOTAL	23,131	2,820	25,951	0
TOTAL SAND & GRAVEL	**23,918**	**2,845**	**26,763**	**225**

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

4.5 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. 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.

4.6 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. In terms of sand and gravel, the landbank is a healthy 29 years in North East Wales but stands at only about 4 years in North West Wales, below the 7 year minimum recommended in MTAN1.

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 For those crushed rock sites where a reserve figure is available the dormant landbank is as follows: Denbighshire, 13 years; Flintshire, 4 years. There are also relatively small quantities of dormant slate reserve in Gwynedd.

4.9 For dormant sand and gravel sites where a reserve figure is available the landbank for sand and gravel is as follows: Gwynedd, 1 year.

Table 7: RESERVES & LANDBANKS FOR AGGREGATES* North Wales 2006

LIMESTONE	2004 Aggregate Sales (Million Tonnes)	2005 Aggregate Sales (Million Tonnes)	2006 Aggregate Sales (Million Tonnes)	Average Sales (Million Tonnes)	Permitted Reserves at 31/12/06 (Million Tonnes)	Landbank (years)
Anglesey	0.1	0.0	<0.1	<0.1	0.13	1+
NW WALES	0.1	0.0	<0.1	<0.1	0.13	1+
Conwy	0.8	0.9	1.03	0.9	35.97	40
Denbighshire	1.0	0.9	0.9	0.93	23.95	26
Flintshire	3.5	3.3	3.24	3.35	78.7	24
NE WALES	5.3	5.1	5.17	5.2	138.62	27
TOTAL LIMESTONE	5.4	5.1	5.17	5.18	138.75	27
IGNEOUS/ METAMORPHIC ROCK						
Anglesey	0.3	**	0.3	0.3	11.9	40
Gwynedd	0.3	**	0.3	0.3	8.47	28
NW WALES	0.6	0.6	0.6	0.6	20.4	34
Conwy	0.4	0.5	0.52	0.47	31.7	67
NE WALES	0.5	0.5	0.52	0.47	31.7	67
TOTAL IGNEOUS & METAMORPHIC ROCK	1.1	1.1	1.1	1.1	52.1	47
TOTAL ROCK	**6.5**	**6.2**	**6.3**	**6.3**	**190.8**	**30**

SAND & GRAVEL	2004 Aggregate Sales (Million Tonnes)	2005 Aggregate Sales (Million Tonnes)	2006 Aggregate Sales (Million Tonnes)	Average Sales (Million tonnes)	Permitted Reserves at 31/12/06 (Million Tonnes)	Landbank (years)
Gwynedd	0.2	0.25	0.15	0.2	0.8	4
NW WALES	0.2	0.25	0.15	0.2	0.8	4
Denbighshire/Flintshire/ Wrexham	0.3 0.6	(a) 1.0	(a) 1.0	(a) 0.9	(a) 26	(a) 29
NE WALES	0.9	1.0	1.0	0.9	26.0	29
TOTAL SAND & GRAVEL	**1.1**	**1.3**	**1.2**	**1.1**	**26.8**	**24**

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.

** Sales combined to protect confidentiality

(a) Denbighshire & Flintshire combined with Wrexham 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. The most significant mineral is slate which is worked both as a by-product of roofing slate production and as a secondary material from waste tips. Clay and shale are also worked for aggregate purposes and, depending upon specification, may substitute for traditional primary aggregates.

5.2 Sales of slate worked as primary aggregate are included in figures for igneous and metamorphic rock in Table 3 above.

5.3 In addition to this material about 729,000 tonnes of secondary slate was sold for aggregate purposes in 2006. The amount of material sold for non-aggregate purposes is not known. The majority of the material was worked in Gwynedd but some came from Denbighshire.

5.4 In terms of reserves, although difficult to assess with any precision, it has been estimated that there are about 79Mt of slate waste available with permission to be worked. Of this some 40Mt are known to exist in Gwynedd but the true figure is probably more than twice this. Reserves of some 0.5Mt have been declared in Denbighshire in 2006.

5.5 In the case of fill grade material from clay/shale sites considered suitable for construction, some 6.5M tonnes have in the past been declared by operators. However, in 2006 only 3.9M tonnes were declared. Both figures are thought to be underestimates of the true reserve because not all operators have provided information.

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

5.7 Overall, it has been estimated that in the region as a whole the amount of secondary material available for use in the construction industry could amount to in excess of 90M tonnes. How much of this material could in practice be used by the region's construction market, for reasons of specification and location, is a matter for debate.

5.8 The situation regarding the substitution of primary aggregate by recycled construction and demolition waste (CDEW) remains unclear. The Welsh Assembly Government commissioned Faber Maunsell to carry out a survey of arisings and re-use for 2005. However, a low response rate has diminished the reliability of results. Nevertheless, the survey estimates that some 3.97 M tonnes (excluding an estimated 5% soil) for Wales as a whole, of recycled material may have been used as aggregate in 2005. The Consultation Draft RTS estimated that the North Wales share of this total was 1 M tonnes (based on proportions measured in previous surveys).

5.9 In Conwy 4,000t of alternative material, believed to be CDEW, was sold as aggregate in 2006.

5.10 In Anglesey, JDM Accord implemented a planning permission to recycle aggregate at Bwlch Gwyn Quarry, Pentre Berw. The company is the County Council's highway contractor and the permission allows the importation of materials arising from

highway repair works. It is re-processed and used in other highway improvement schemes.

5.11 The survey of road planings arisings for 2006 yielded responses from only two authority areas: Gwynedd and Denbighshire. In total 3769 tonnes of material is known to have been recycled, mainly into footpaths and unclassified roads. A further 4469 tonnes of material was stored for future use. It is likely that road planings have been recycled in all areas. Nevertheless, they would not be expected to amount to a significant resource.

6: PLANNING APPLICATIONS 2006

6.1. The following information has been provided by the Mineral Planning Authorities and provides details of planning applications and decisions during 2006.

Conwy

6.2 No applications were submitted, granted or refused during 2006.

Gwynedd

6.3 The Environment Act Review application, for the determination of conditions at the Active Twll Llwyd Quarry, Nantlle, which was registered in 2000 was granted on 8 November 2006

6.4 Permission for the removal of material from a mineral working deposit at Hafod y Wern Slate Tip, Betws Garmon, at the rate of 5,000 tonnes per annum was granted on 14 August 2006.

6.5 An application was registered on 18 August 2006 for the continuation of operations involving the removal of material from a mineral working deposit with restoration to rough grazing using inert materials at Ty Mawr East Slate Tip, Nantlle. The rate of working would be 25,000 tonnes per annum. Permission was granted on 30 October 2006.

6.6 An application was registered on 11 September 2006 for the removal of material from a mineral working deposit in connection with a Hyrdro Project Extension at Marchlyn Tip, Deinileon. Permission was granted on 6 December 2006.

6.7 An application was registered on 8 November 2006 for the removal of material from a mineral working deposit for use as daily cover material for Cilgwyn refuse tip, Cilgwyn, Carmel. The application remained undetermined at the end of 2006.

Snowdonia

6.8 No applications were received and no permissions were granted for aggregate extraction during 2006.

Wrexham

6.9 In December 2006 the Council granted planning permission for extraction of 17.7M tonnes of sand and gravel from Borras Quarry. Approximately 11.8M tonnes 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.

6.10 Planning permission for an extension to Balls Wood Quarry, near Llay was refused in March 2006. No appeal was submitted.

Flintshire

6.11 Planning permission was granted for an extension to Pant Quarry to extract about 2.273 million tonnes of limestone.

Denbighshire

6.12 There were no applications or decisions in 2006 that affected the permitted reserves of primary crushed rock or sand and gravel.

Anglesey

6.13 Planning permission was granted in June 2006 for an extension to Rhuddlan Bach Quarry. The permission allows the extraction of about 0.94 million tonnes of limestone. Discussions were held regarding a recommencement of extraction at Dinmore Quarry, Penmon. A screening opinion has determined that the application (made under the ROMP review) would not require an Environmental Assessment.

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 8: Development Plans

Mineral Planning Authority	Progress in 2006/Current Policy document	Adoption Date (Anticipated)
Anglesey	Plan 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 commenced in 2006 on the Local Development Plan. 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 awaited at the end of 2006 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 At 31 December 2006 the Authority was at the stage of community involvement and participation in a range of future options for the Eryri Local Development Plan 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. The consultation period closed during December. Current policy documents: Gwynedd 1993 and Clwyd 1999 Structure plans	
Denbighshire	The Local Development Document was at the Regulation 14 stage in 2006. A Preferred Strategy is expected to be issued for consultation in 2007. Current policy document: UDP, Adopted 2002	
Flintshire	A consultation on the Post Consultation Modifications took place at the end of 2006. Changes included to buffer zones and safeguarding areas for minerals. A public inquiry was anticipated during 2007 with adoption expected in 2008. After that time work will commence on the Local Development Plan. Current policy; Clywd 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. Current policy: Wrexham UDP, adopted February 2005	

8: REGIONAL DEVELOPMENTS AND OTHER SIGNIFICANT MATTERS

8.1 The following information has been provided by the Mineral Planning Authorities and identifies important developments or other matters with significance for aggregate supply and demand which occurred during 2006.

Anglesey

8.2 Nothing reported.

Conwy

8.3 Nothing reported.

Flintshire

8.4 No significant developments were reported. However, general housing and commercial construction was healthy. There was ongoing maintenance of the A55 and A494/550.

8.5 One clay extraction site closed in 2006 although reserves were not exhausted. The ROMP application was withdrawn and so the permission has now ceased to exist. The site is the subject of a re-development proposal including 200-300 houses.

Denbighshire

8.6 No significant developments were reported. However, ongoing maintenance of the A55 continued.

8.7 Seven Prohibition Orders have been served, mostly at sites containing Carboniferous Limestone or Millstone Grit. Confirmation of the Orders is awaited from WAG, subject to any hearings that may be necessary should representations be made by interested parties.

Gwynedd

8.8 No significant developments were reported in 2006.

8.9 Gwynedd has already served five Prohibition Orders, all of which have been confirmed. Other potential sites at which Orders may be served are: Marchlyn, Dinorwig; Dorothea, Nantlle; and Twll Coed, Nantlle. These are all slate sites.

Snowdonia

8.10 No major developments are reported in the Snowdonia National Park.

8.11 Four Prohibition Orders were confirmed in Snowdonia between 1999 and 2003.

8.12 Three dormant ROMP aggregates quarries are recorded at Foel Gron, Coed Ffridd Arw and Llys Gwynt. However, owing to a number of factors it is considered unlikely that any will be re-opened.

Wrexham

8.13 No major developments took place during 2006.

8.14 The Prohibition Orders for Tir Celyn, near Wern, Pen y Craig and the former clay pit at Llwyneinion near Rhos were confirmed. The only outstanding Prohibition Orders from those listed in the Wrexham UDP are those for Bwlchgwyn Quarry (North and South).

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 that 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 and Mid Wales (ie outside the N Wales RAWP area).

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

9.4 The 2004/05 programme saw the completion of IMAECA (Implementing the Methodology for Assessing the Environmental Capacity for Planning Aggregates). This applies the environmental capacity methodology derived from previous research by ARUP (EMAADS – Establishing a Methodology for Assessing Aggregates Supply and Demand) to primary aggregate resources in Wales, to allow strategic level assessments of development suitability. The outputs from the IMAECA work were being used in the preparation of the North Wales and South Wales Regional Technical Statements during 2006.

9.5 The IMAGIN project, which started in 2005, continued through 2006. 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. It is a two year programme supported by INTERREG (European Interregional Fund), WAG, the Irish Government and Industry.

9.6 The North and South Wales RAWPs had earlier been successful in gaining finance from the Aggregates Levy Sustainability Fund for Wales to support a study into secondary aggregates arisings and usage in Wales during 2003. This work was awarded to Smith, Gore and a report was produced in August 2005. The results for the whole of Wales indicated that arisings of construction and demolition waste had risen from 5.02mt in 2001 to 6.01mt in 2003. Of this, utilisation as recycled aggregates and soil had increased from 1.79mt in 2001 to 2.68mt in 2003 (i.e. usage for aggregates had increased from 36% in 2001 to 45% in 2003). Separate figures for soil within the recycled total in 2001 were c5% but were not separately available for 2003. The report however expressed caution in comparing the two years as the nature of the survey samples and confidence levels differed. Data for North and South Wales was not subdivided.

9.7 A further survey of waste arisings in Wales for 2005 was undertaken during 2006. The contractors were Faber Maunsell and the final report was due to be published early in 2007.

GLOSSARY AND ACRONYMS

Active	– A quarry with a current planning permission producing stone in 2002.
Aggregates	– Sand, gravel, crushed rock and recycled or secondary materials used in the construction industry for purposes such as the making of concrete, mortar, asphalt or for road stone, drainage or bulk filling materials.
British Aggregates Association (BAA)	– An association formed in 1999 representing over 50 mainly independent and privately owned quarry companies in the UK.
Construction and Demolition Waste (CDW)	– 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.
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 that cannot be lawfully worked or resume working until a scheme of modern planning conditions has been submitted to and approved by a Mineral Planning Authority .
Export	– The transport of aggregate from the North Wales region to other areas, including to other parts of Wales as well as England.
Fill	– Aggregate used during construction to fill large voids, for example to replace material excavated at construction sites considered unsuitable 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. It is composed of the sum of all permitted reserves at a given time and for a given area.
Primary aggregate	– Quarried rock, sand and gravel for construction aggregate purposes. Rock quarried as the main objective of a quarry for the production of aggregate.
Limestone	– A sedimentary rock consisting mainly of calcium carbonate.

MPA	–	Mineral Planning Authority
Permitted Reserves	–	Areas and tonnages of rock with a valid planning permission for extraction which have been defined by survey and or estimation.
ODPM	–	Office of the Deputy Prime Minister (now Department for Communities and Local Government (DCLG)
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.
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	–	Rock that is produced at a quarry as a by-product of the main product, for example contaminated or weak aggregates in hard rock quarries, siltstones and sandstone in clay workings and unsuitable rock in quarries producing roofing slate. Material derived from these sources and used for construction are often referred to as secondary aggregates. A material which originates as a waste of other mining or quarrying or from industrial processes (e.g. colliery waste, blast furnace slag, slate waste) but excluding mineral primarily extracted for aggregate purposes.
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.

Appendix 1. NWaRAWP Membership 2006

as at 31/12/06

Full RAWP

Chair

I Evans/G Jones	Gwynedd Council

Technical Secretary

J Gibbins/I A Thomas	Gwynedd Council/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

D Pollock	Quarry Products Association (QPA)
I Pearson	Marshalls/British Aggregates Association (BAA)
R Hulse	Tarmac/QPA
V Russell	Tarmac/QPA Wales
T Brown	Hanson/QPA
R. Millard	QPA Wales
D Williams	D P Williams Holdings/Independent Companies
K Frost	RMC/QPA
G Sloyan	J Doyle (Demolition) Ltd (CDW. Recycling Rep.)
N Brown	Norwest Sand and Ballast/ BMAPA
G. Gibson	McAlpine Slate Products

Government / Other Agency Representatives

S Martin	Welsh Assembly Government (WAG)
W Mackenzie	Office of the Deputy Prime Minister
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
P Northam	Wales Environment Trust

Technical Sub-Group

Chair.		
	G Jones	Gwynedd Council
Technical Secretary		
	J Gibbins/I A Thomas	Gwynedd Council/National Stone Centre
	K Down	Secretariat/National Stone Centre
Members.		
	D G Jones	Gwynedd Council
	G Nancarrow	Flintshire County Council
	V Russell	Tarmac/QPA Wales
	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

Anglesey CC

Cllr Hefin Thomas

Cllr John Williams

Conwy

Cllr O Edwards

Cllr R G Waters

Flintshire

Cllr Aaron Shotton

Cllr Jim Jones

Denbighshire

Cllr Eryl Williams

Cllr Selwyn Thomas

Gwynedd

Cllr Dyfed Edwards

Cllr Gwilym Williams

Snowdonia NP

Peter Weston

Warren Martin

Wrexham CBC

Cllr Mark Pritchard

Cllr M H R Moysen

Appendix 2. Sites Producing Aggregates in 2006

Unitary Authority	Site	Material	Grid Reference
ANGLESEY	Cae'r Glaw	Igneous	381766
	Gwyndy	Igneous	395795
	Hengae	Igneous	440687
	Rhuddlan Bach	Limestone	486806
	Nant Newydd	Limestone	481811
	Bryn Engan	Limestone	507814
	Aber	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
	Pentre Uchaf	Sand & Gravel	
	Maes y Droell	Sand & Gravel	
	Moel y Waen	Clay/Shale	
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	
	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 2006 Survey

Unitary Authority	Site	Material	Grid Reference
ANGLESEY	Bwlch Gwyn	Igneous	485730
	Tywyn Trewan	Sand/Ash	321747
	Creigiau	Sandstone	488 860
	Dinmor		
GWYNEDD	Cae Efalwyd	Sand & Gravel	246352
	Tan y Bryn	Sand & Gravel	246352
	Gro Sarnau	Sand & Gravel	-
SNOWDONIA	None	None	-
CONWY	Plas Gwilym	Limestone	880780
DENBIGHSHIRE	Burley Hill	Limestone	-
	Graig Denbigh	Limestone	305366
	Pistyl Gwyn	Limestone	
	Pant Y Gwlanod	Limestone	
FLINTSHIRE	Grange	Limestone	316375
	Bryn Gwyn	Limestone & Sandstone	321361
	Cambrian	Limestone & Silica Rock	-
	Ddol Uchaf	Sand & Gravel	315371
	Fagl Lane	Sand & Gravel	330359
	Kinnerton Bank	Sand & Gravel	
	Hendre East	Sand & Gravel	
	Moel y Waen	Clay, Shale	
	Ruby	Shale	320364
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*

* This report is free to download. However, a charge will be made if a hard copy is requested which will reflect the price of copying, administration and postal charges

Copies of this report can be viewed on the web site of the Welsh Assembly Government [www.wales.gov.uk]