

**North Wales Regional
Aggregates Working Party**

**Annual Report
2004**

This Annual Report covers the calendar year 2004. During that period the North Wales Regional Aggregates Working Party (NWaRAWP) Officers were:

Chairman: Iwan Evans, Head of Service (Planning and Transportation)

Secretary: Roger Bennion/Jeremy Gibbins*

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

However, this report was compiled by Ian Thomas and Karen Down, National Stone Centre, Wirksworth, Derbyshire, DE4 4LS as commissioned by the Welsh Assembly Government on 1 June 2006 (see introduction).

Copies of the report will be made available electronically on the NWaRAWP web site when launched, and on the Welsh Assembly Government web site.

* For the last few weeks of 2004 only

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

	Page
1. Introduction	1
2. NWaRAWP	3
3. Surveys Results – 2004	4
4. Reserves and Landbanks	7
5. Secondary, Recycled and Other Aggregates	7
6. Planning Applications and Research 2004	10
7. Unitary Development Plans	11
 GLOSSARY AND ACRONYMS	 12
 APPENDICES	
1 NWaRAWP Membership	14
2 Sites Producing Aggregate in 2004	15
3 Dormant/Inactive Sites 2004	16
4 Publications	17
 TABLES	
1 Aggregate Sales – North Wales Region 1993-2004	4
2 Sales of Aggregate by Unitary Authority 1997-2004	4
3 Crushed Rock Sales by End Use 2004	5
4 Sand and Gravel Sales by End Use 2004	6
5 Reserves and Landbanks for Aggregates 2004	9
6 Crushed Rock Reserves by Active/Dormant Designation	7
7 Unitary Development Plans	11

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 2004, and where appropriate (e.g. permitted reserves) relates the position at 31 December 2004
- 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, 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 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 the 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.
 7. This report has been compiled for the RAWP under this last commission, as in the past based largely on information supplied by the quarry operators to the Mineral Planning Authorities and in turn, to the NSC.
- 1.5 In the context of the delays experienced from February 2005 and bearing in mind that the more sophisticated AM 2005 is well underway, this report is confined to presentation of statistical data and key factual information made available to the compliers at the time. Unlike previous reports, it does not attempt to analyse the data. This will be conducted in some detail as part of the Regional Technical Statement process which is now in hand.
- 1.6 It should also be noted that, whereas eventually a high level of returns was received (i.e. more or less comparable with previous surveys), many were incomplete in detail. So, whereas the **total sales** are reasonably robust, the categories in the sub totals making up these, together with some of the data on reserves, is not as reliable as in the past.

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 is comprised of six unitary authorities, which as such are also Mineral Planning Authorities (MPAs): Anglesey; Gwynedd; Conwy; Denbighshire; Flintshire and Wrexham and the Snowdonia National Park.
- 2.2. The membership of the NWaRAWP is drawn from officers of the MPAs, the aggregates extraction industry, Welsh Assembly Government (WAG), the Office of the Deputy Prime Minister (ODPM - now the Department for Communities and Local Government - DCLG), the Technical Services Division (WAG), 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 2004, Iwan Evans, Head of Planning and Transportation at Gwynedd continued as Chair. Gwynedd Council was contracted to provide secretarial services to the NWaRAWP until March 2006 (see para 1.4 above). A full list of membership for 2004 together with a note of changes can be found in Appendix 1.
- 2.3. The full NWaRAWP met in March and October. The main subjects discussed included the draft Annual Reports for 2002 and 2003, the Aggregates Levy, the implications of the Minerals Technical Advice Note (MTAN) for the RAWP and in particular the programme of work, the prospective construction and demolition and quarry waste survey and the representation of this sector on the RAWP, and the research report on Sand and Gravel Resources of North West Wales.
- 2.4. In the light of the requirement to prepare a Regional Technical Statement (RTS) set out in the MTAN a Technical Sub-Group was established in April and also met in September. A draft RTS contents was agreed.

3. SURVEY RESULTS 2004

Table 1: Aggregate Sales-North Wales Region 1993-2004 (, 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
1993	371	1354	1725	801	7243	8044	9769
1994	245	1461	1706	690	8030	8720	10426
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

NW Wales S&G includes 52,307 tonnes marine and small amount of sand from Anglesey

Table 2: Sales of Aggregate by Unitary Authority 1997-2004 (tonnes)

	1997	1998	1999	2000	2001	2002	2003	2004
SAND&GRAVEL								
Anglesey	0	0	0	0	0	0	0	©
Gwynedd	213117	188998	261310	370094	216197	212964	230924	245307
Snowdonia	0	0	0	0	0	0	0	0
Conwy	0	0	0	0	0	0	0	0
Flintshire/Denbighshire	868777	770585	793036	585427	546512	*523613	389691	292519
Wrexham	356408	524007	627036	571737	623832	617553	650771	606833
Total N Wales	1438302	1483590	1681382	1527258	1386541	1354130	1271386	1144659
CRUSHED ROCK								
Anglesey	426047	318856	911111	1006937	525494	485026	419079	445231
Gwynedd	186178	149339	144874	262717	177063	165480	236924	292705
Snowdonia	88249	72226	9076	0	0	0	0	0
Conwy	1603524	1764198	1637307	1858172	1743910	1671991	1502975	1258972
Denbighshire	2501115	2744550	2615243	2332716	1719904	1226523	1066215	1037837
Flintshire	2683436	2988178	2678418	2551903	3031829	2970787	3071685	3470501
Wrexham	0	0	0	0	0	0	0	0
Total N Wales	7488549	8037347	7996029	8012445	7198200	6519807	6296878	6505246

Gwynedd S&G includes 52,307 T. Marine dredged sand and small amount of sand from Anglesey
 Figures for Anglesey include estimates by MPA

Table 3 Crushed Rock Sales: North Wales 2004 All figures in Tonnes

	COATED ROADSTONE	UNCOATED ROADSTONE	CONCRETE AGGREGATE	FILL/OTHER CONSTR. USE	RAIL BALLAST	USE UNKNOWN	TOTAL AGGREGATES	BUILDING STONE	OTHER NON- AGG. USES	TOTAL NON- AGG. USES	TOTAL
LIMESTONE/DOLOMITE											
Anglesey	0	0	0	1,469	0	110,000	111,469	500	0	500	111,969
NW WALES	0	0	0	1,469	0	110,000	111,469	500	0	500	111,969
Conwy	27,306	8,638	38,778	10,854	0	699,559	785,135	0	8,803	8,803	793,938
Denbighshire	122,230	0	245,138	42,579	0	627,890	1,037,837	2,292	13,538	15,830	1,053,667
Flintshire	234,205	661,423	714,103	612,727	0	1,248,043	3,470,501	719	644,426	645,145	4,115,646
NE WALES	383,741	670,061	998,019	666,160	0	2,575,492	5,293,473	3,011	666,767	669,778	5,963,251
TOTAL Lst	383,741	670,061	998,019	667,629	-	2,685,492	5,404,942	3,511	666,767	670,278	6,075,220
IGNEOUS ROCK/SANDSTONE											
Anglesey	149,979	23,000	31,939	1668	0	127,176	333,762	1,692	0	1,692	335,454
Gwynedd	62,000	82,000	11,422	137,283	0	0	292,705	281	0	281	292,986
NW WALES	211,979	105,000	43,361	138,951	0	127,176	626,467	1,973	0	1,973	628,440
Conwy	58,872	0	40,629	9,871	209,953	154,512	473,837	0	0	0	473,837
NE WALES	58,872	0	40,629	9,871	209,953	154,512	473,837	0	0	0	473,837
TOTAL Ig/Sstn	270,851	105,000	83,990	148,822	209,953	281,688	1,100,304	1,973	-	1,973	1,102,277
TOTAL ROCK	654,592	775,061	1,082,009	816,451	209,953	2,967,180	6,505,246	5,484	666,767	672,251	7,177,497

Limestone figures for Anglesey include estimates by the MPA

Table 4 SAND & GRAVEL SALES: North Wales 2004 All figures in Tonnes

	SOFT SAND	SHARP SAND	CONCRETE/ OTHER	UNKNOWN SALES	TOTAL AGGREGATE	INDUSTRIAL USE	TOTAL
Gwynedd*	55,307	26,000	112,000	52,000	245,307	-	245,307
Denbighshire/Flintshire	0	95,470	197,049	-	292,519	1,186	293,705
Wrexham	-	-	526,833	80,000	606,833	3,132	609,965
Total NW Wales	55,307	26,000	112,000	52,000	245,307	-	245,307
Total NE Wales	-	95,470	723,882	80,000	899,352	4,318	903,670
TOTAL N WALES	55,307	121,470	835,882	132,000	1,144,659	4,318	1,148,977

The marine sand landed at Port Penrhyn (52,307) is included in the figure for Gwynedd

* Gwynedd includes small amount of sand from Anglesey

4. RESERVES AND LANDBANKS

Table 5: Reserves and Landbanks for Aggregates

See table over page

- 4.1 Table 6 gives an indication of the crushed rock reserves and landbank currently available if the known dormant reserves are subtracted from the total regional and sub-regional landbanks. For the purposes of this exercise and in keeping with previous reports all igneous rock reserves have been allocated to NW Wales. This allows a better “fit” of production profile between the sub-regions as the NW Wales sub-region is almost exclusively a producer of igneous rock and the NE sub-region limestone. The sand and gravel landbank does not require detailed analysis as dormant sites play little part in the total landbank.

Table 6: Crushed Rock Reserves by Active/Dormant Designation 2004

		Active Reserves (Million Tonnes)	Active Landbank (Years)	Dormant Reserves (Million Tonnes)
LIMESTONE	North East Wales	132	24	21
IGNEOUS	North West Wales	64	58	0

5. SECONDARY, RECYCLED AND OTHER AGGREGATES

- 5.1 In addition to traditional 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 primary aggregate and as a secondary material from waste tips. Clay and shale are also worked for aggregate purposes and substitute for the traditional primary aggregates at the lower end of the market, for example as fill.
- 5.2 Known sales of slate for aggregate use amounted to 625,126 tonnes in 2004. Most of this was derived from slate waste. However, somewhat under 20% was worked as primary aggregate.
- 5.3 In terms of reserves, although difficult to assess with any precision, it has been estimated that there are about 79M tonnes of slate waste available with permission to be worked as well as just over 3M tonnes permitted as primary aggregate. In the case of fill grade material from clay sites considered suitable for construction, some 6.5M tonnes have been declared by operators. This is an underestimate of the true reserve because not all operators have provided information of reserves.

- 5.4 A survey of road planings arisings was carried out for 2004. The response was poor with only one authority providing a return. This indicated that 8692 tonnes was recycled in Flintshire and probably accounted for most of the material generated in 2004 in that area. It is likely that road planings have been recycled in all areas. However, they would not be expected to amount to a significant resource.

Table 5: RESERVES & LANDBANKS FOR AGGREGATES* North Wales 2004

	2002 Aggregate Sales	2003 Aggregate Sales	2004 Aggregate Sales	Average Sales	Permitted Reserves at 31/12/04	Landbank
	(Million Tonnes)	(Million Tonnes)	(Million Tonnes)	(Million Tonnes)	(Million Tonnes)	(years)
LIMESTONE						
Anglesey	<0.1	0.0	0.1	<0.1	0.3	3+
NW WALES	<0.1	0.0	0.1	<0.1	0.3	3+
Conwy	1.2	1.1	0.8	1.0	27.8	28
Denbighshire	1.2	1.1	1.0	1.1	26.7	24
Flintshire	3.0	3.1	3.5	3.2	98.9	31
NE WALES	5.4	5.3	5.3	5.3	153.4	29
TOTAL LIMESTONE	5.5	5.3	5.4	5.3	153.7	29
IGNEOUS ROCK/ SANDSTONE						
Anglesey	0.4	0.4	0.3	0.4	26.4	66
Gwynedd	0.2	0.2	0.3	0.2	5.7	29
NW WALES	0.6	0.6	0.6	0.6	32.1	53
Conwy	0.4	0.5	0.4	0.4	32.6	82
NE WALES	0.4	0.5	0.5	0.4	32.6	82
TOTAL IGNEOUS & SSTN.	1.0	1.1	1.1	1.1	64.7	58
TOTAL ROCK	6.5	6.4	6.5	6.5	218.4	33
	2002 Aggregate Sales	2003 Aggregate Sales	2004 Aggregate Sales	Average Sales	Permitted Reserves at 31/12/04	Landbank
	(Million Tonnes)	(Million Tonnes)	(Million Tonnes)	(Million tonnes)	(Million Tonnes)	(years)
SAND & GRAVEL						
Gwynedd	0.2	0.2	0.2	0.2	1.5	8
NW WALES	0.2	0.2	0.2	0.2	1.5	8
Denbighshire/Flintshire	0.6	0.4	0.3	0.4	5.9	15
Wrexham	0.6	0.7	0.6	0.6	9.8	16
NE WALES	1.2	1.1	0.9	1.1	15.7	14
TOTAL SAND & GRAVEL	1.4	1.3	1.1	1.2	17.2	13

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

6: PLANNING APPLICATIONS AND RESEARCH 2004

- 6.1. Insufficient information has been supplied by the MPAs to be able to report systematically on the planning decisions made in 2004, i.e. without further delays to the publication of this document. It is proposed to remedy this in part by reviewing the position as part of the RTS process.
- 6.2. However, one major planning inquiry is reported. This was held during June 2004 in respect of a called-in extension to St George Quarry, Abergele in Conwy to release a further 14.8M tonnes of limestone. In exchange, the company offered to relinquish permitted reserves at Llandulas Quarry, amounting to 18M tonnes. Overall this would result in a net reduction in permitted reserves of some 3.2M tonnes. The call-in, ref. APP/T6905/X/03/514370, was allowed.
- 6.3. The report “Sand and Gravel Resources of North West Wales” by the University of Liverpool and Enviro Consulting published at the end of 2003 was considered and accepted by the RAWP. It contains a very detailed appraisal of resources in that sub-region.
- 6.4. The report “Establishing a Methodology for Assessing Aggregates Demand” (EMAADS) produced by Arup Environmental (with the National Stone Centre as advisors) was also published in 2003. As a consequence, the Welsh Assembly Government commissioned Enviro Consulting to research the implementation of the methodology. Their report, “Implementing the Methodology for Assessing the Environmental Capacity for Primary Aggregates” (IMEACA) was due to be published in early 2005.
- 6.5. The main British Geological Survey mapping programme in Wales (supported by WAG), in 2004 was concerned with the completion of surveys in Mid Wales i.e. outside the North Wales RAWP area.
- 6.6. The NWaRAWP and South Wales RAWP, in partnership with Smiths Gore of Wrexham had submitted a successful bid to the Wales Sustainability Fund to conduct a survey of Construction and Demolition Waste and Quarry Waste for 2003. The study began in the Autumn and was due to report in March 2005. It was intended to mirror a similar exercise sponsored by the ODPM in England.

7: UNITARY DEVELOPMENT PLANS

Table 7: Unitary Development Plans

Mineral Planning Authority	Progress in 2004/Current Policy document	Adoption Date (Anticipated)
Anglesey	Draft on deposit November 2001 consultation until Spring 2002. Plan in August/September 2003. Inspectors report 2004. minimal modification in respect of aggregates policies Current policy; Gwynedd Structure Plan 1993.	Anticipated 2005
Gwynedd	Current Policy relies on Gwynedd Structure Plan 1993 Deposit draft published 2004	
Snowdonia N.P.	UDP considered for suspension towards end of year (resolved to suspend January 2005) 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. Negotiations were in progress with WAG on the Delivery Agreement Gwynedd 1993 and Clwyd 1999 Structure plans as interim	
Denbighshire	UDP Adopted 2002	2002
Flintshire	Deposit draft for consultation published at end 2004 Current policy; Clywd Structure Plan 1 st Alteration 1991	
Wrexham	Plan completed end of 2004 but not adopted until after the period for challenge (February 2005)	2004 (2005)

GLOSSARY AND ACRONYMS

Active	– A quarry with a current planning permission producing stone in 2002
Aggregates	– Sand, gravel, crushed rock and other bulk 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 60 independent and privately owned quarry companies.
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, including to other parts of Wales.
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	– Rock quarried as the main objective of a quarry for the production of aggregate.
Limestone	– A sedimentary rock of organic origin consisting mainly of calcium carbonate.

MPA	– Mineral Planning Authority
ODPM	– Office of the Deputy Prime Minister (now Department for Communities and Local Government (DCLG))
Quarry Product Association (QPA)	– The principal trade association that represents some 120 quarry operators who, together, account for 90% of the supply of aggregate materials in Great Britain.
Rail Ballast	– Aggregate used to support railway tracks.
Reserves	– Defined quantities of areas and tonnages of rock with a valid planning permission for extraction, usually by quarry working.
Resource	– Areas of rock and sand and gravel which are known 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 removed during the repair of road carriageways, often this is coated stone that will need to be treated to remove old bitumen if it is to be reused in road construction.
Sand and Gravel	– Unconsolidated superficial material usually of fluvio-glacial origin overlying the solid geology. Deposits are usually worked as a source of material for general building and for the manufacture of concrete.
Secondary Mineral	– 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
Sharp Sand	– Coarse sand suitable for use in making concrete.
Slate Waste	– Material produced at slate quarries unsuitable for the production of roofing slate and waste material arising from the manufacturing of the slates (See Secondary Minerals).
Soft Sand	– Otherwise known as building sand, fine sand suitable for use in such products as mortar and plaster.

Appendix 1. NWaRAWP Membership 2004

Chair.

I Evans Gwynedd Council

Technical Secretary

R P Bennion (a) Gwynedd Council

J Gibbins (b) Gwynedd Council

Local Government Representatives

J Williams Isle of Anglesey County Council

D G Jones/ J Gibbins Gwynedd Council

G Lloyd Snowdonia National Park

C Thomas Conwy County Borough Council

G Jones Denbighshire County Council

G Nancarrow Flintshire County Council

R Sheffield Wrexham County Borough Council

Aggregate Industry Representatives

D Pollock Quarry Products Association

P Huxtable British Aggregates Association

S Hill Tarmac Central/QPA

E Jordan/T Brown Hanson/QPA

D Williams D P Williams /Independents

J Davies RMC/QPA

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

N Brown Norwest Sand and Ballast/ BMAPA

S Roberts McAlpine Slate Products

Government / Other Agency Representatives

C Morgan Welsh Assembly Government (WAG)

S Martin Welsh Assembly Government (WAG)

W Mackenzie Office of the Deputy Prime Minister

J Davies British Geological Survey

S Williams Technical Services Division, WAG

A Dale Countryside Council for Wales

R Carter Environment Agency Wales

A Farrow North West Regional Aggregates Working Party

S Bool South Wales Regional Aggregates Working Party

(a) until late 2004

(b) from late 2004

Appendix 2. Sites Producing Aggregates in 2004

Unitary Authority	Site	Material	Grid Reference
ANGLESEY	Caer Glaw	Igneous	381766
	Gwyndy	Igneous	395795
	Rhuddlan Bach	Limestone	486806
	Nant Newydd	Limestone	481811
	Bryn Engan	Limestone	507814
	Twyn Trewan	Sand/Ash	321747
	Creigiau	Sandstone	488 860
	Aber	Limestone	503 866-
GWYNEDD	Garth (Minfordd)	Igneous	259339
	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
SNOWDONIA	None	None	-
CONWY	St. George	Limestone	970373
	Raynes	Limestone	890780
	Penmaenmawr	Igneous	702755
	Plas Gwilym	Limestone	880780
DENBIGHSHIRE	Graig (Denbigh)	Limestone	305366
	Graig (Llanarmon)	Limestone	320356
	Aberduna	Limestone	320361
	Cae Rhys	Sand & Gravel	321356
	Moel y Faen	Slate Waste	318348
FLINTSHIRE	Pant	Limestone	319730
	Pant y Pwll Dwr	Limestone	319732
	Trimm Rock	Limestone	319366
	Hendre	Limestone	319368
	Aberdo	Limestone	318372
	Bryn Mawr	Limestone	318373
	Maes Mynan	Sand & Gravel	311372
	Fron Haul	Sand & Gravel	315370
	Parrys	Shale	-
	Alltami	Shale(Bulk Fill)	327366
WREXHAM	Wrexham Borrass	Sand & Gravel	364524
	Ballswood	Sand & Gravel	350563

Appendix 3. Dormant/Inactive Sites included in Returns for 2004 Survey

Unitary Authority	Quarry	Stone	Grid Reference
ANGLESEY	Bwlch Gwyn	Igneous	485730
	Hengae	Igneous	440687
GWYNEDD	Cae Efalwyd	Sand & Gravel	246352
	Tan y Bryn	Sand & Gravel	246352
	Gro Sarnau	Sand & Gravel	-
SNOWDONIA	None	None	-
CONWY	None	None	-
DENBIGHSHIRE	Dyserth	Limestone	306379
	Burley Hill	Limestone	-
FLINTSHIRE	Grange	Limestone	316375
	Bryn Gwyn	Limestone & Sandstone	321361
	Cambrian	Limestone & Silica Rock	-
	Liverpool Road	Shale & Sandstone	-
	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*

* 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]