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# **Participation Rates for Welsh Students in Higher Education within the UK during 2000/2001**

**May 2003**

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Lywodraeth Cynulliad Cymru  
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# PARTICIPATION RATES FOR WELSH STUDENTS IN HIGHER EDUCATION WITHIN THE UK DURING 2000/2001

## ■ INTRODUCTION

- 1 This report is the fourth in a series of reports published by the Higher Education Funding Council for Wales (HEFCW) to provide information about the levels of participation in higher education in Wales. This report presents the student participation rates in the academic year 2000/01.
- 2 The report follows the same structure as the three previous reports (W00/34HE, W00/108HE & W02/29HE), presenting information on participation rates in higher education (HE) in a series of maps. Most of the analysis is displayed by unitary authority, and these maps show how participation levels vary with age, mode of study and gender. For readers requiring more detailed local level data the report additionally includes a series of maps showing the participation rates at Ward (i.e., Electoral Division) level.
- 3 Context statistics regarding both the higher education sector in Wales and student participation trends between the academic years 1998/99 and 2000/01 are provided in the tables of Annex A.

## ■ BACKGROUND

- 4 A key educational priority of the National Assembly and the HEFCW is to increase the number of higher education students from neighbourhoods where the proportion of the population studying within the higher education sector (i.e., the participation rate) is traditionally very low.
- 5 The published performance indicators for UK Higher Education Institutions (HEFCE publications 00/40, 01/69 & 2002/52) show that Wales performs well in comparison with the rest of the UK in providing access to higher education for people from disadvantaged areas. However, in order to maintain and improve on this position it is necessary to analyse and review periodically the patterns of participation across Wales, as well as to encourage institutions to target students from low participation areas through incentives such as funding premiums for widening access and other initiatives.
- 6 This report presents a snapshot of the distribution of the domicile of Welsh HE students within UK higher education institutions (including the Open University), and further education colleges, in 2000/01. The analysis is based on data collected by the Higher Education Statistics Agency (HESA), the three GB Further Education Funding Councils and the Department of Employment and Learning (DEL) in Northern Ireland.

## ■ THE METHODOLOGY

- 7 The participation rates in this report are presented according to either the 22 Unitary Authorities of Wales or the 908 Electoral Wards used in the 1991 Census. Each Welsh student's Ward and Unitary Authority of domicile was derived from the postcode of the student's home address. The student participation rates for these areas could most simply be defined as the number of higher education students from the area divided by the resident population. However, such a definition of participation does not lead to figures which can be fairly compared between regions due to the difference in regional population, sex and age profiles.
- 8 To take account of the different sex and age profiles of a local area, the Welsh national participation rates, aggregated by age and sex, were used to calculate the number of higher education students that could be **expected** to come from any particular Ward or Unitary Authority. The expected

number of students for an area is the number of students that would be domiciled in that area if the participation patterns mirrored those for all of Wales.

- 9 The **Standard Participation Rate** which is used throughout this report allows regional participation rates to be fairly compared to each other. It is defined as the number of higher education students domiciled in an area divided by the expected number of students for that area (as defined in para. 8), and multiplied by 100. The higher the Standard Participation Rate the greater the uptake of the population within the higher education sector.
- 10 If a particular region has a Standard Participation Rate (SPR) of less than 100 then there were fewer HE students living in that area than would be expected based on the Welsh national averages. Similarly, a SPR value above 100 indicates a region with a larger percentage of the population studying for a higher education qualification than would be expected from the national averages.
- 11 The participation rate data used in generating the maps and tables in this report have taken account of:
  - students returning invalid or missing postcodes;
  - census data amendments to locate students at their home addresses;
  - first results of 2001 Population Census;
  - statistical 'noise' in areas with low student populations.

Further technical details of the calculation methods used are given in Annex B.

## ■ WELSH HIGHER EDUCATION STUDENTS

- 12 In 2000/01 there were over 101,000 Welsh domiciled students studying for higher education qualifications in HE institutions and further education colleges in the UK. Seventy per cent of these students were studying in Wales (including Open University students). Of all the Welsh domiciled students over half (56 per cent) were female. Similarly, just over half of all students were full-time undergraduates and of these the majority were under 25 years old. However, of the 45 per cent of Welsh students studying on a part-time basis most were 25 years of age or older. A breakdown of the mode, gender, level and age of Welsh students is provided in Tables 1 to 4 of Annex A.

## ■ WELSH NATIONAL PARTICIPATION RATES

- 13 The calculated national participation rates for 2000/01 are shown in Table 5 of Annex A. Over 3 per cent of the Welsh population was engaged in higher education in 2000/01 with the participation of Welsh women in higher education significantly higher than that of men. The participation rates were highest for 18 to 19 year olds, with over one quarter studying for a higher education qualification.
- 14 The percentage of the population engaged in higher education rose between 1998/99 and 2000/01 as student numbers increased. The increase was not uniform across all age categories; Table 5 shows how the national participation rates increased over the three years by both gender and age.

## ■ INTERPRETING THE MAPS

- 15 The maps in this report, broken down by Unitary Authorities (Maps 1-8) and Census Wards (Maps 9-12), have been drawn on the same fixed ranges of Standard Participation Rate so as to allow comparison between maps. Areas coloured in yellow show regions where the participation within higher education was closely in line with the national average. Areas which are either red or orange had participation rates significantly below the national average, whilst areas in green had high levels of participation in higher education.

- 16 In each map legend the number of Unitary Authorities or Wards which fall into each participation range are shown in parentheses.

## ■ COMMENTARY ON MAPS

### Overview

- 17 The maps of Standard Participation Rates (SPRs) in this report show that there were significant variations in levels of participation in higher education in 2000/01, both in terms of Unitary Authorities and Census Wards. Residents of certain Unitary Authorities were found to be two or three times as likely to be studying in higher education than residents of other Unitary Authorities. On a Ward level residents of a ward with a very low participation rate were up to ten times less likely to be studying in higher education than residents of a ward with a very high participation rate.
- 18 In general, the regions which had the lowest Standard Participation Rates were located in the South Wales Valleys. Nearly 45 per cent of the wards in Wales considered to have very low participation levels lie in the South Wales Valleys (Blaenau Gwent, Bridgend, Caerphilly, Torfaen, Merthyr Tydfil and Rhondda Cynon Taff), whilst in total the South Wales Valleys account for only 19 per cent of all Welsh wards (see Maps 9 to 12). The highest Student Participation Rates were found in Ceredigion, although other regions such as Monmouthshire, Carmarthenshire and Conwy also had very high participation rates.

### Participation by student mode of attendance

- 19 The Standard Participation Rates for Welsh domiciled higher education students by mode of attendance were analysed by means of full-time and part-time study, shown in Maps 2 and 3 respectively. In these maps, postgraduate research students (PGR) have been excluded due to the different nature of their study. The participation rates for part-time students were somewhat more uniform across the country than those for full-time students (i.e., more Unitary Authorities had SPRs close to the national average).
- 20 Furthermore, when the students studying for low-credit courses were excluded from the analysis (Map 4), the national variation in part-time participation rates was shown to be even more uniform across the authorities of Wales. A student on a low-credit course was defined as a student who is studying for less than 10 per cent of a full time equivalent (FTE). The authority with the largest proportion of students enrolled on low-credit courses was Ceredigion with about 30 per cent of its part-time students on low-credit courses. (See Maps 3 & 4 and Table 7b from Annex A.)

### Participation for full-time undergraduate students by age

- 21 Standard Participation Rates for full-time undergraduate students were analysed (Maps 5 and 6). Eighty five per cent of full-time undergraduates were under 25 and the participation levels for this age group varied widely across Wales with fairly high participation rates across much of Wales but these high rates were offset by very low rates in the south east of Wales and Wrexham. The participation rates for the full-time undergraduates aged 25 and over also varied widely across Wales but the distribution was quite different to that for young entrants, with very high rates in the north west of Wales and low rates in Powys and the South Wales Valleys.

### Participation by student gender

- 22 The national participation rates for female students were significantly higher than those for male students (see para. 13). There was no strong regional component to the difference in numbers between male and female students, and both share a similar participation distribution across Wales. This can be seen in the similarities between Maps 7 and 8.

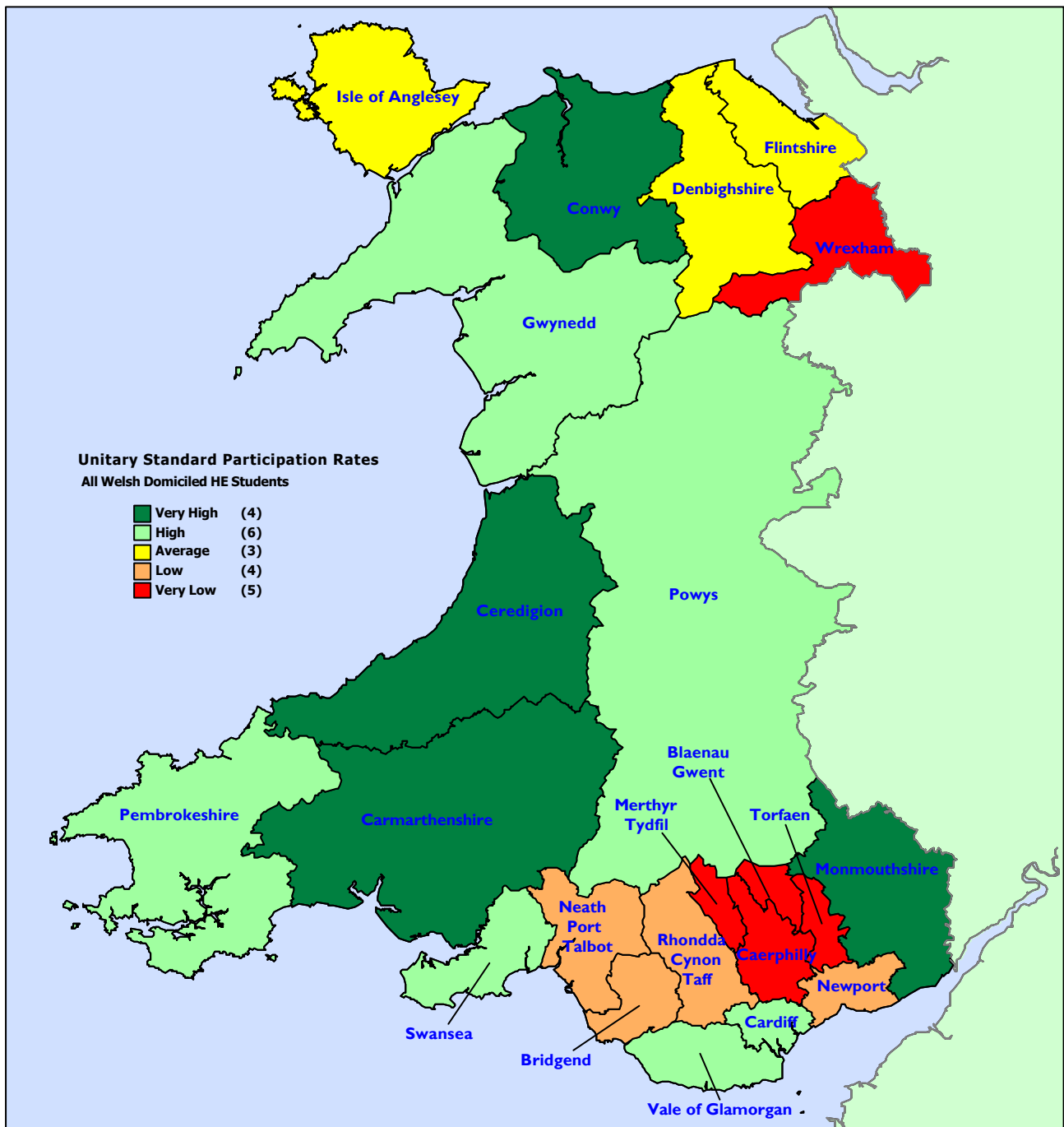
## ■ ETHNICITY

- 23 In the 2000/01 academic year 3 per cent (2,969) of the Welsh domiciled student population whose ethnicity was known were from ethnic minorities. The numbers of students from ethnic minorities living in each unitary authority varied from 25 in Anglesey to 1,010 in Cardiff. Due to the small numbers involved and the high concentration of ethnic minorities living in urban Cardiff, Swansea and Newport, it has not been possible to provide a meaningful map of participation rates broken down by ethnicity. However, it can be noted that the 2001 Labour Force Survey showed that only 1.9 per cent of the Welsh population aged 16 and over were from ethnic minorities. Therefore overall, ethnic minorities are well-represented within higher education. However, this picture is unlikely to be consistently true across all ethnic groups and ages, in all areas of Wales.

## ■ PARTICIPATION RATE TRENDS

- 24 Tables 6a-6d compare student Standard Participation Rates calculated for 1998/99 (as published in W00/108HE), 1999/2000 (as published in W02/29HE) and 2000/2001 data. As all three sets of figures are Standard Participation Rates which have been normalised to the yearly national average rates broken down by gender and age, it is misleading to compare the Standard Participation Rates from different years directly. However, the standard deviation (shown in the tables) can be used to measure the variation of participation rates across the country, where the larger the standard deviation the greater the variation in rates.
- 25 The national variation in student participation rates by area of domicile in 2000/2001 was higher than in 1998/1999. That is, between 1998/99 and 2000/01 there was a widening of the relative gap between areas of high participation and low participation. This trend is true for nearly all student groups examined but is particularly marked for young full-time students (Table 6c).
- 26 An illustration of the apparent widening gap in levels of participation can be seen from the figures in Table 7a. Between 1998/99 and 2000/01, the number of students from the high participation areas of Ceredigion, Monmouthshire, Conwy and Carmarthenshire rose by 19%. Over the same time period the number of students from the low participation areas of Blaenau Gwent, Caerphilly, Torfaen, Merthyr Tydfil and Wrexham rose by only 10%. So, although student numbers have increased across Wales the disparity between the growth rates has caused the gap between areas of high and low participation to widen.
- 27 Only when future year's participation data is available, will it be clear whether this apparent widening of the participation gap is an anomaly for 2000/01 or a genuine trend.

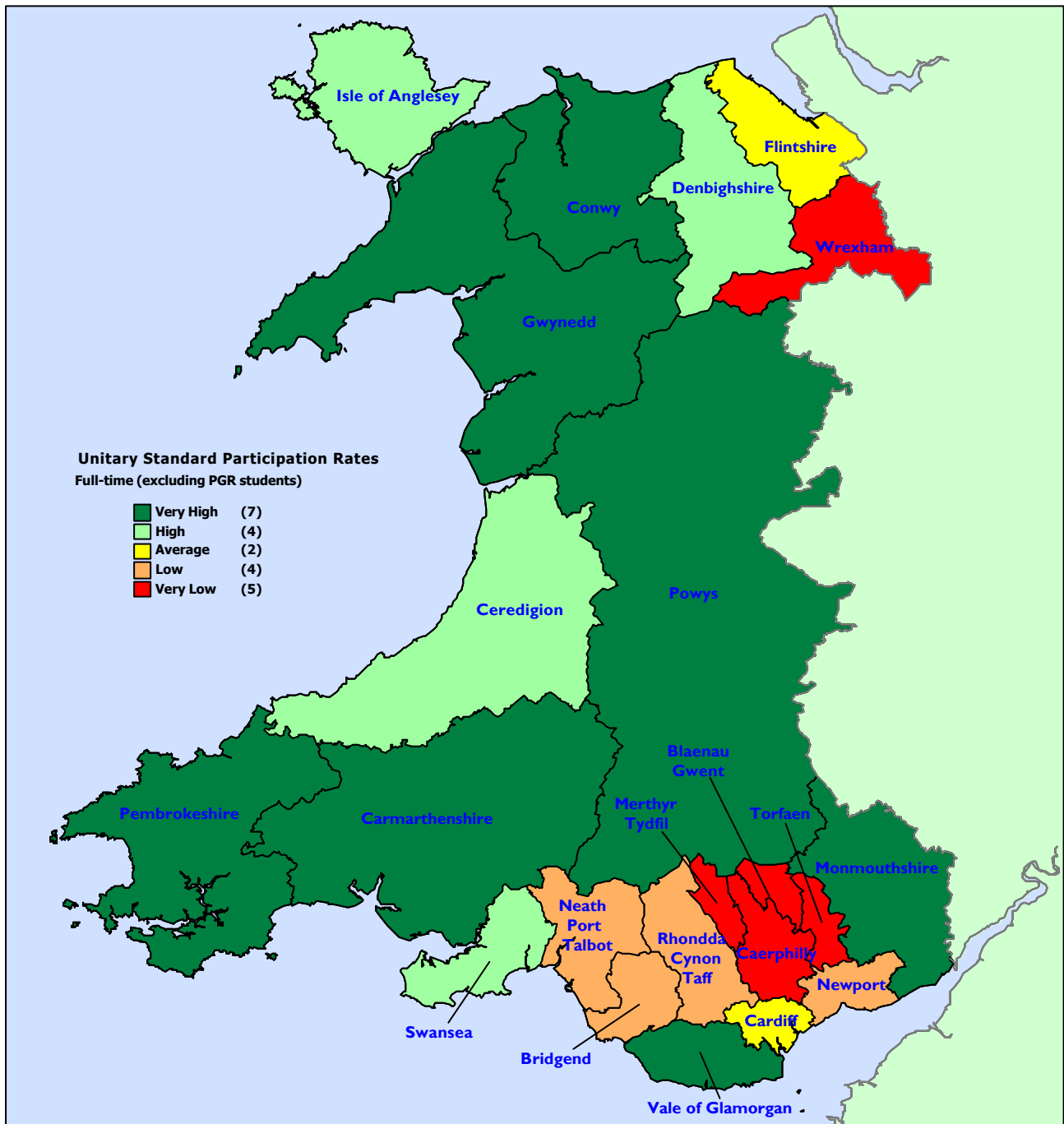
**Map 1 : Standard Participation Rates for all Welsh Domiciled HE Students in 2000/2001**



Unitary Authority	Standard Participation Rate	Unitary Authority	Standard Participation Rate
Isle of Anglesey	100	Neath Port Talbot	84
Gwynedd	113	Bridgend	87
Conwy	124	Vale of Glamorgan	117
Denbighshire	102	Rhondda Cynon Taff	85
Flintshire	97	Merthyr Tydfil	78
Wrexham	79	Caerphilly	70
Powys	116	Blaenau Gwent	54
Ceredigion	139	Torfaen	78
Pembrokeshire	113	Monmouthshire	130
Carmarthenshire	125	Newport	91
Swansea	114	Cardiff	112

Note: Due to rounding the figures in this table may appear to indicate that a unitary authority lies in a different band to that shown in the map.

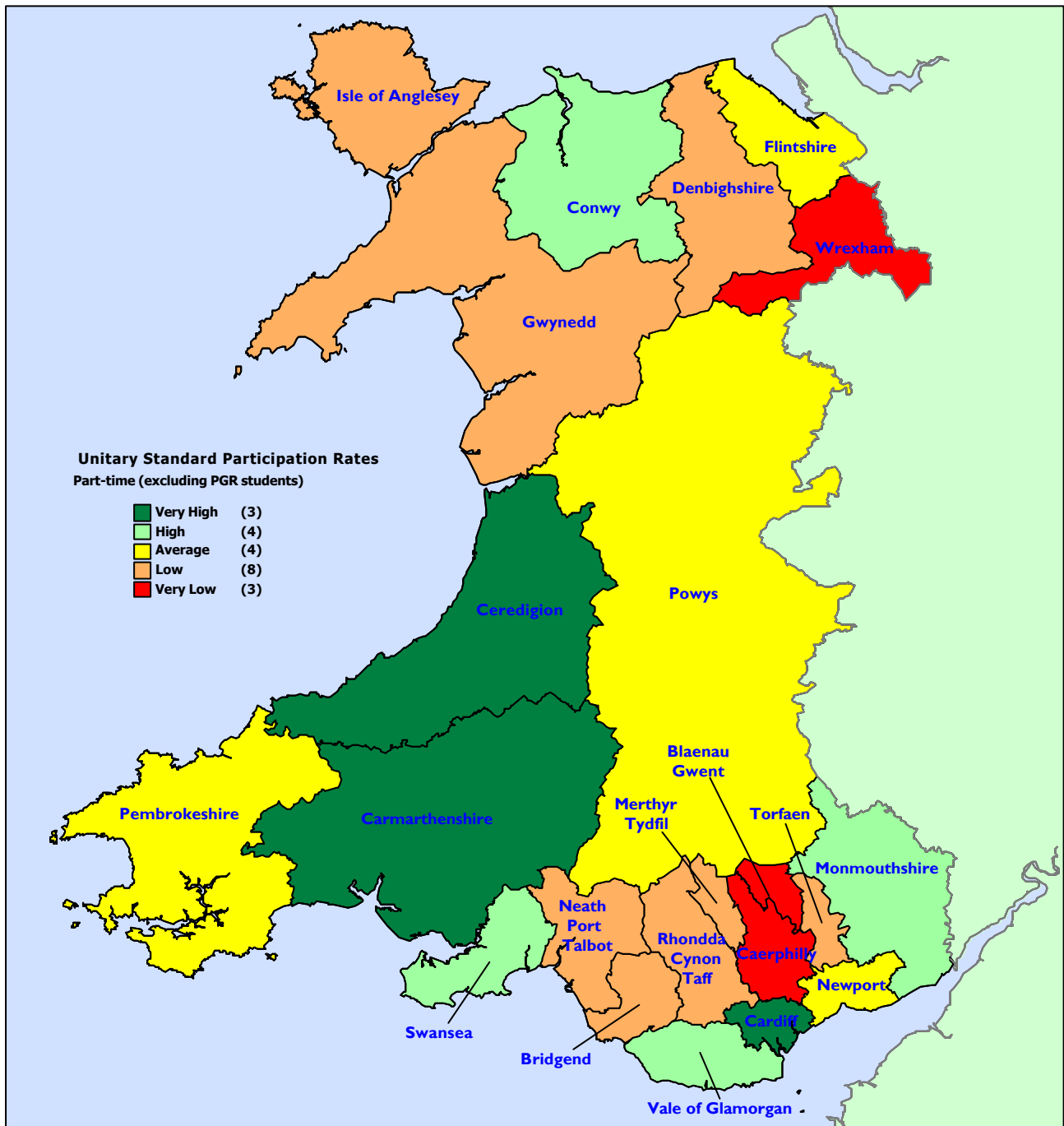
**Map 2 : Standard Participation Rates for all Full-time Students in 2000/2001  
(excluding PGR students)**



Unitary Authority	Standard Participation Rate	Unitary Authority	Standard Participation Rate
Isle of Anglesey	109	Neath Port Talbot	83
Gwynedd	127	Bridgend	84
Conwy	133	Vale of Glamorgan	120
Denbighshire	109	Rhondda Cynon Taff	82
Flintshire	99	Merthyr Tydfil	69
Wrexham	80	Caerphilly	68
Powys	133	Blaenau Gwent	48
Ceredigion	115	Torfaen	73
Pembrokeshire	123	Monmouthshire	150
Carmarthenshire	123	Newport	88
Swansea	117	Cardiff	96

Note: Due to rounding the figures in this table may appear to indicate that a unitary authority lies in a different band to that shown in the map.

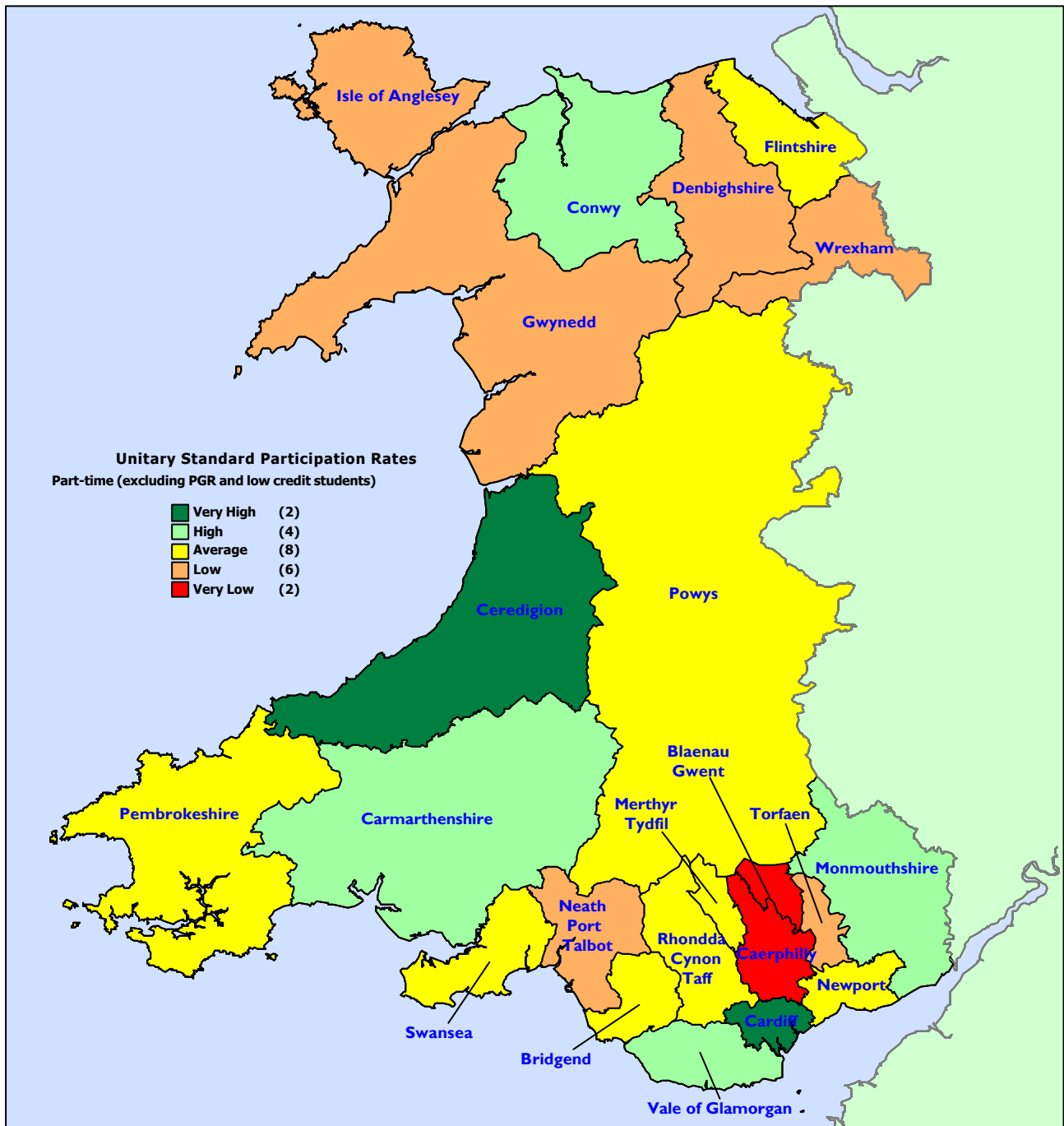
**Map 3 : Standard Participation Rates for all Part-time Students in 2000/2001  
(excluding PGR students)**



Unitary Authority	Standard Participation Rate	Unitary Authority	Standard Participation Rate
Isle of Anglesey	87	Neath Port Talbot	86
Gwynedd	93	Bridgend	92
Conwy	115	Vale of Glamorgan	112
Denbighshire	94	Rhondda Cynon Taff	90
Flintshire	95	Merthyr Tydfil	92
Wrexham	79	Caerphilly	75
Powys	99	Blaenau Gwent	65
Ceredigion	165	Torfaen	85
Pembrokeshire	103	Monmouthshire	109
Carmarthenshire	128	Newport	96
Swansea	106	Cardiff	131

Note: Due to rounding the figures in this table may appear to indicate that a unitary authority lies in a different band to that shown in the map.

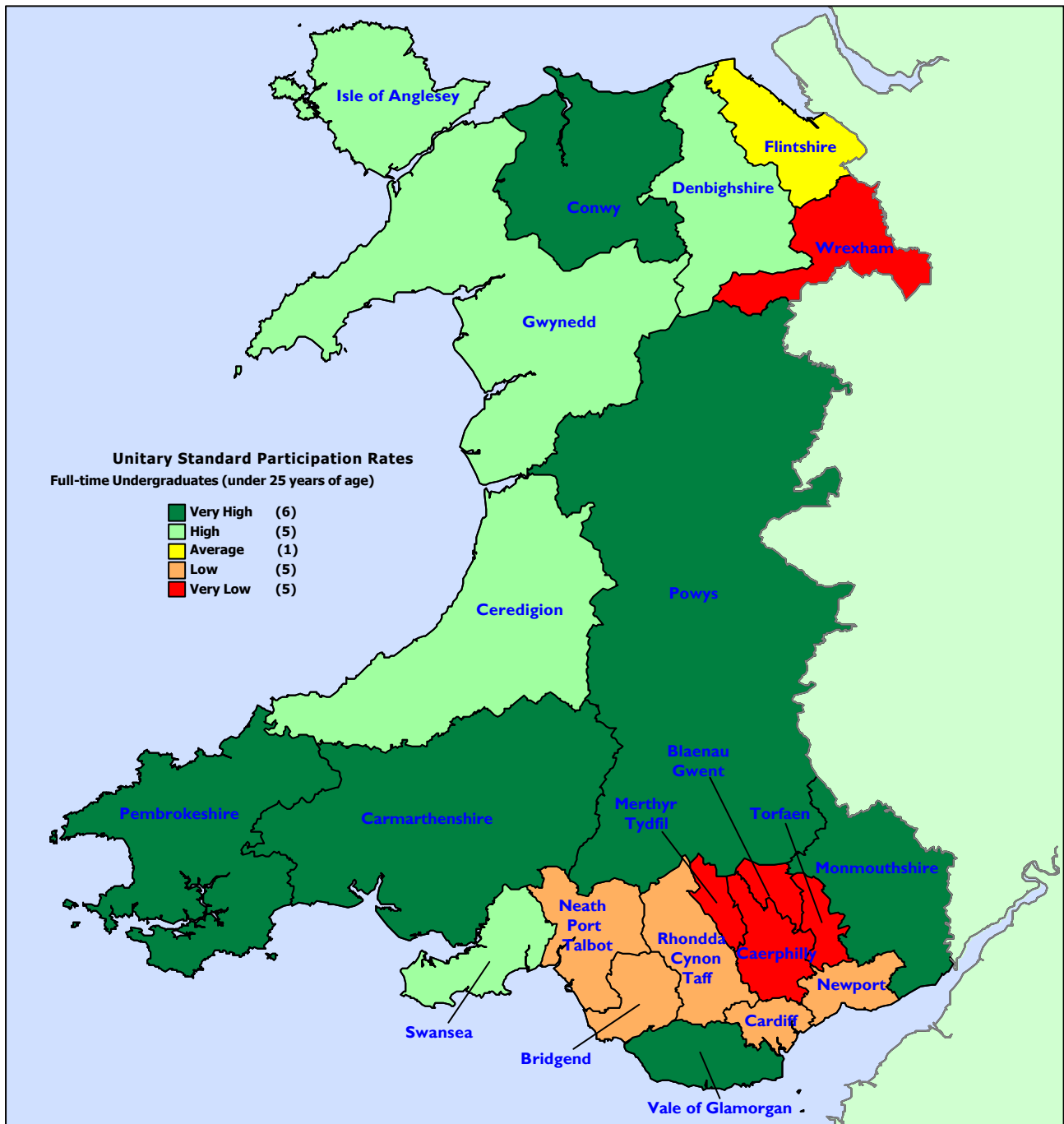
**Map 4 : Standard Participation Rates for all Part-time Students in 2000/2001  
(except where FTE less than 10% or PGR students)**



Unitary Authority	Standard Participation Rate	Unitary Authority	Standard Participation Rate
Isle of Anglesey	85	Neath Port Talbot	90
Gwynedd	88	Bridgend	99
Conwy	115	Vale of Glamorgan	114
Denbighshire	92	Rhondda Cynon Taff	96
Flintshire	100	Merthyr Tydfil	99
Wrexham	84	Caerphilly	80
Powys	99	Blaenau Gwent	70
Ceredigion	128	Torfaen	89
Pembrokeshire	102	Monmouthshire	109
Carmarthenshire	115	Newport	102
Swansea	104	Cardiff	128

Note: Due to rounding the figures in this table may appear to indicate that a unitary authority lies in a different band to that shown in the map.

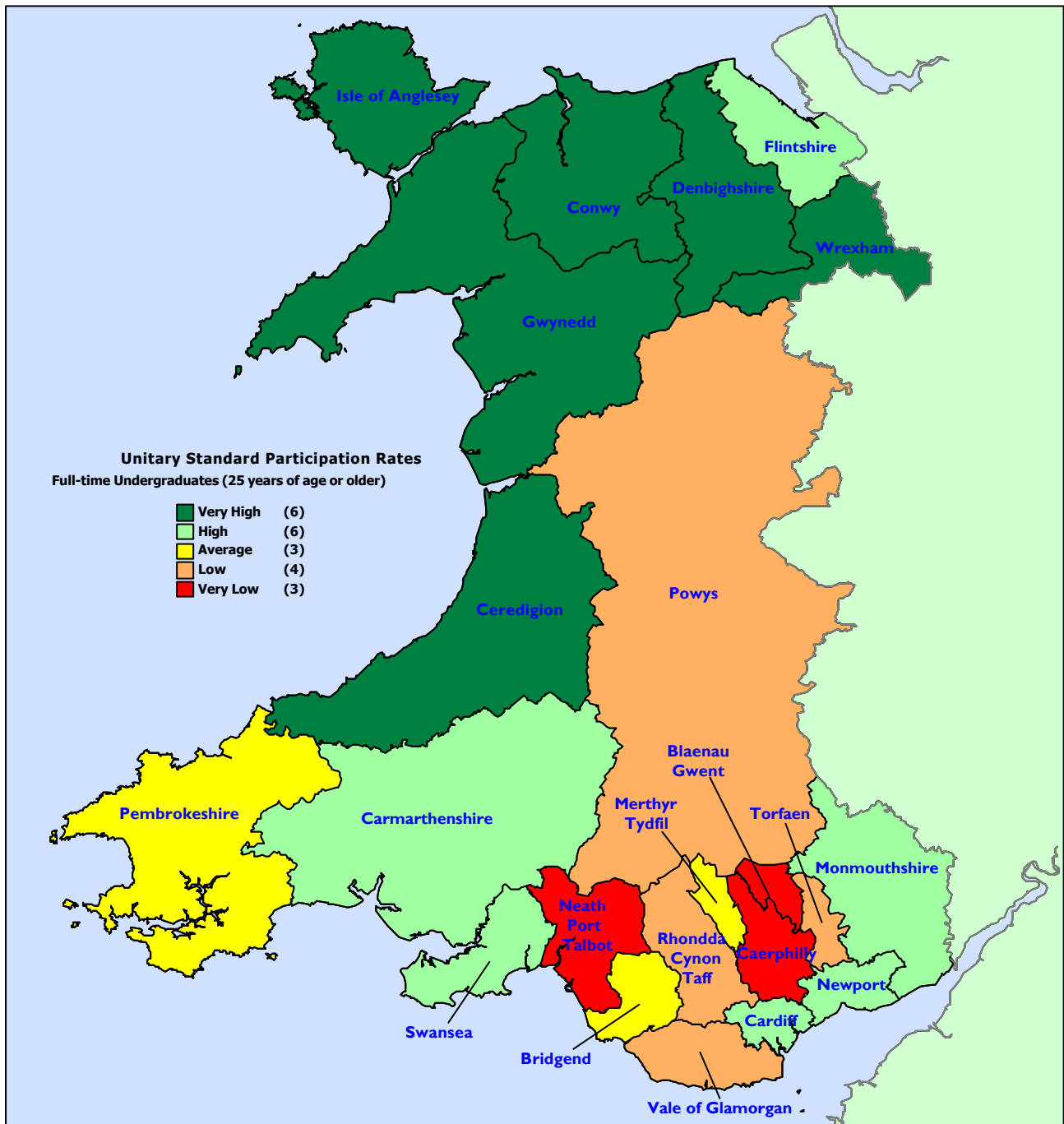
**Map 5 : Standard Participation Rates for Full-time Students in 2000/2001  
(only undergraduates who are under 25 years of age)**



Unitary Authority	Standard Participation Rate	Unitary Authority	Standard Participation Rate
Isle of Anglesey	106	Neath Port Talbot	85
Gwynedd	119	Bridgend	82
Conwy	128	Vale of Glamorgan	126
Denbighshire	107	Rhondda Cynon Taff	82
Flintshire	98	Merthyr Tydfil	67
Wrexham	76	Caerphilly	69
Powys	143	Blaenau Gwent	46
Ceredigion	109	Torfaen	73
Pembrokeshire	130	Monmouthshire	158
Carmarthenshire	125	Newport	84
Swansea	117	Cardiff	89

Note: Due to rounding the figures in this table may appear to indicate that a unitary authority lies in a different band to that shown in the map.

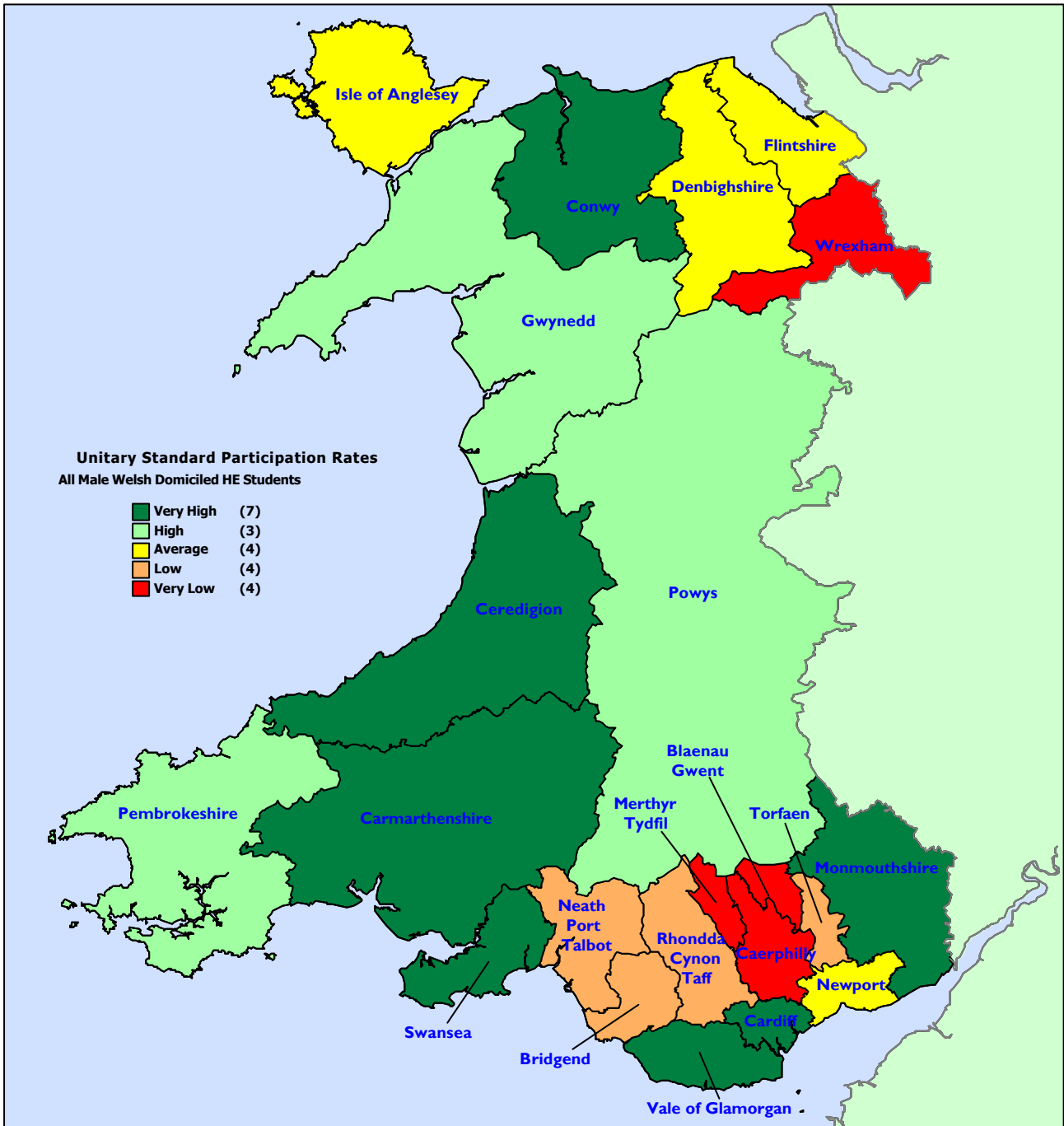
**Map 6 : Standard Participation Rates for Full-time Students in 2000/2001  
(only undergraduates who are 25 years of age or older)**



Unitary Authority	Standard Participation Rate	Unitary Authority	Standard Participation Rate
Isle of Anglesey	125	Neath Port Talbot	72
Gwynedd	154	Bridgend	96
Conwy	165	Vale of Glamorgan	87
Denbighshire	127	Rhondda Cynon Taff	88
Flintshire	119	Merthyr Tydfil	97
Wrexham	121	Caerphilly	70
Powys	93	Blaenau Gwent	68
Ceredigion	144	Torfaen	80
Pembrokeshire	100	Monmouthshire	105
Carmarthenshire	115	Newport	116
Swansea	108	Cardiff	109

Note: Due to rounding the figures in this table may appear to indicate that a unitary authority lies in a different band to that shown in the map.

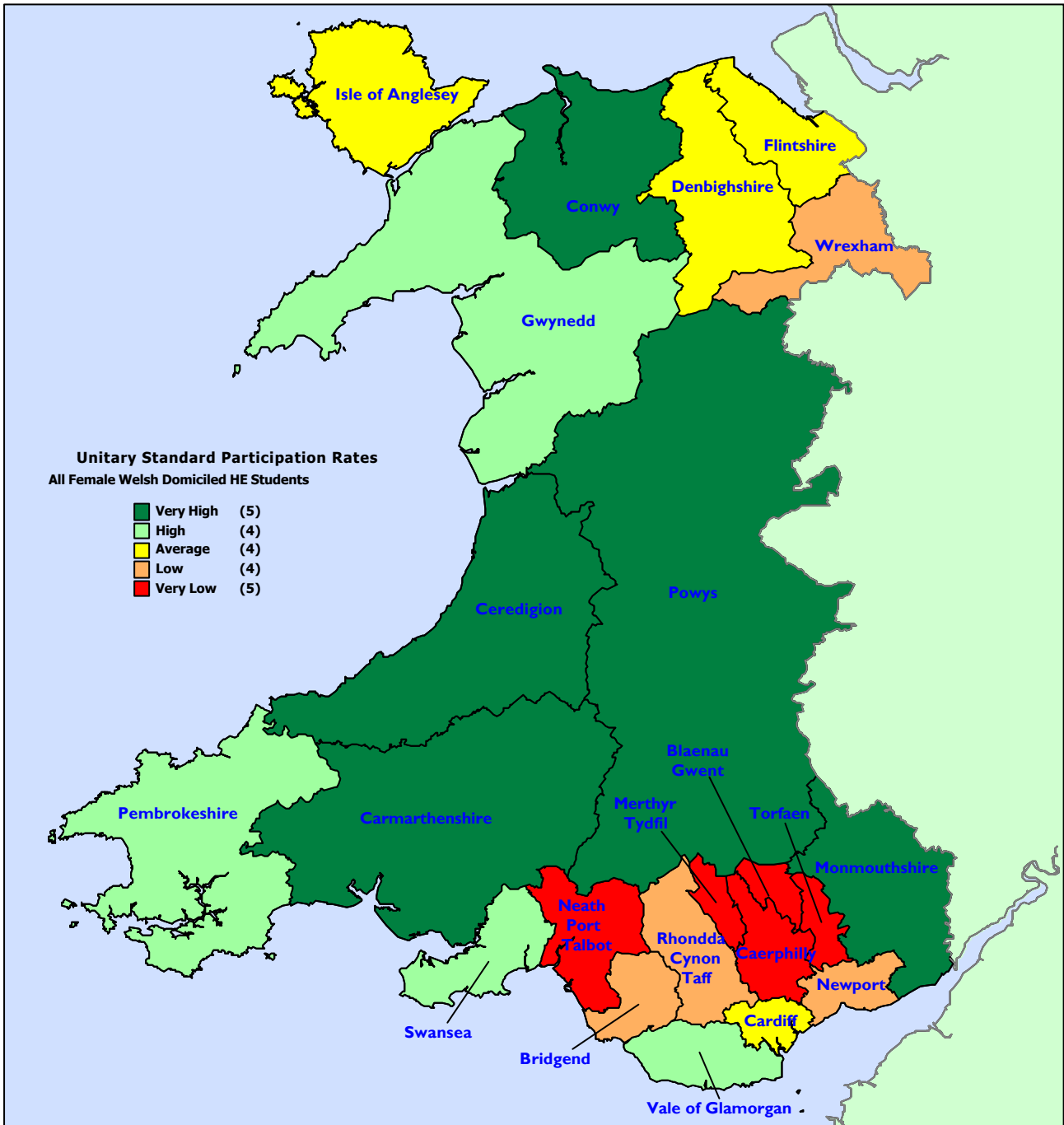
**Map 7 : Standard Participation Rates for Male Students in 2000/2001**



Unitary Authority	Standard Participation Rate	Unitary Authority	Standard Participation Rate
Isle of Anglesey	100	Neath Port Talbot	91
Gwynedd	111	Bridgend	88
Conwy	123	Vale of Glamorgan	122
Denbighshire	101	Rhondda Cynon Taff	88
Flintshire	98	Merthyr Tydfil	79
Wrexham	78	Caerphilly	76
Powys	107	Blaenau Gwent	57
Ceredigion	126	Torfaen	85
Pembrokeshire	115	Monmouthshire	129
Carmarthenshire	128	Newport	102
Swansea	121	Cardiff	129

Note: Due to rounding the figures in this table may appear to indicate that a unitary authority lies in a different band to that shown in the map.

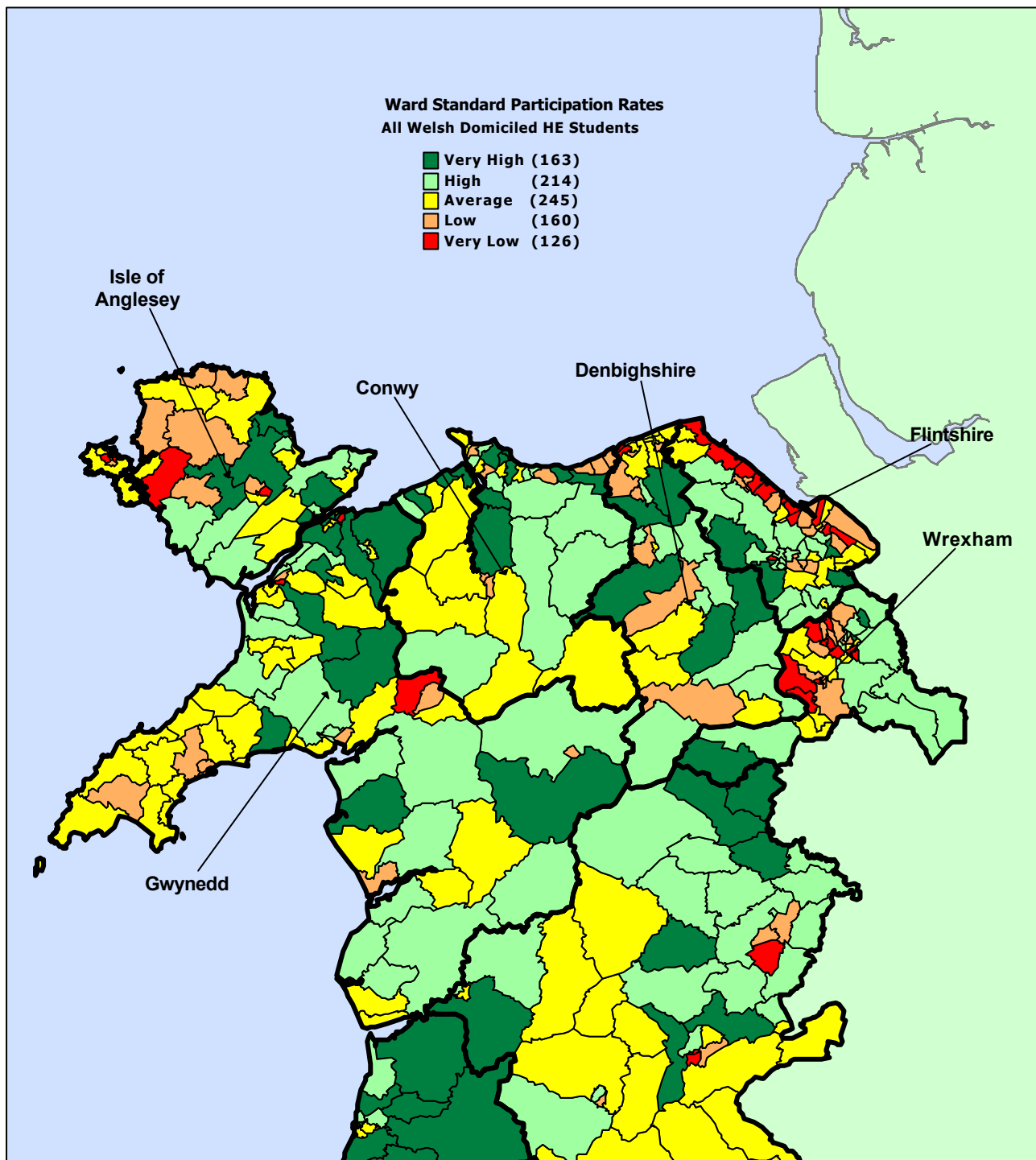
**Map 8 : Standard Participation Rates for Female Students in 2000/2001**



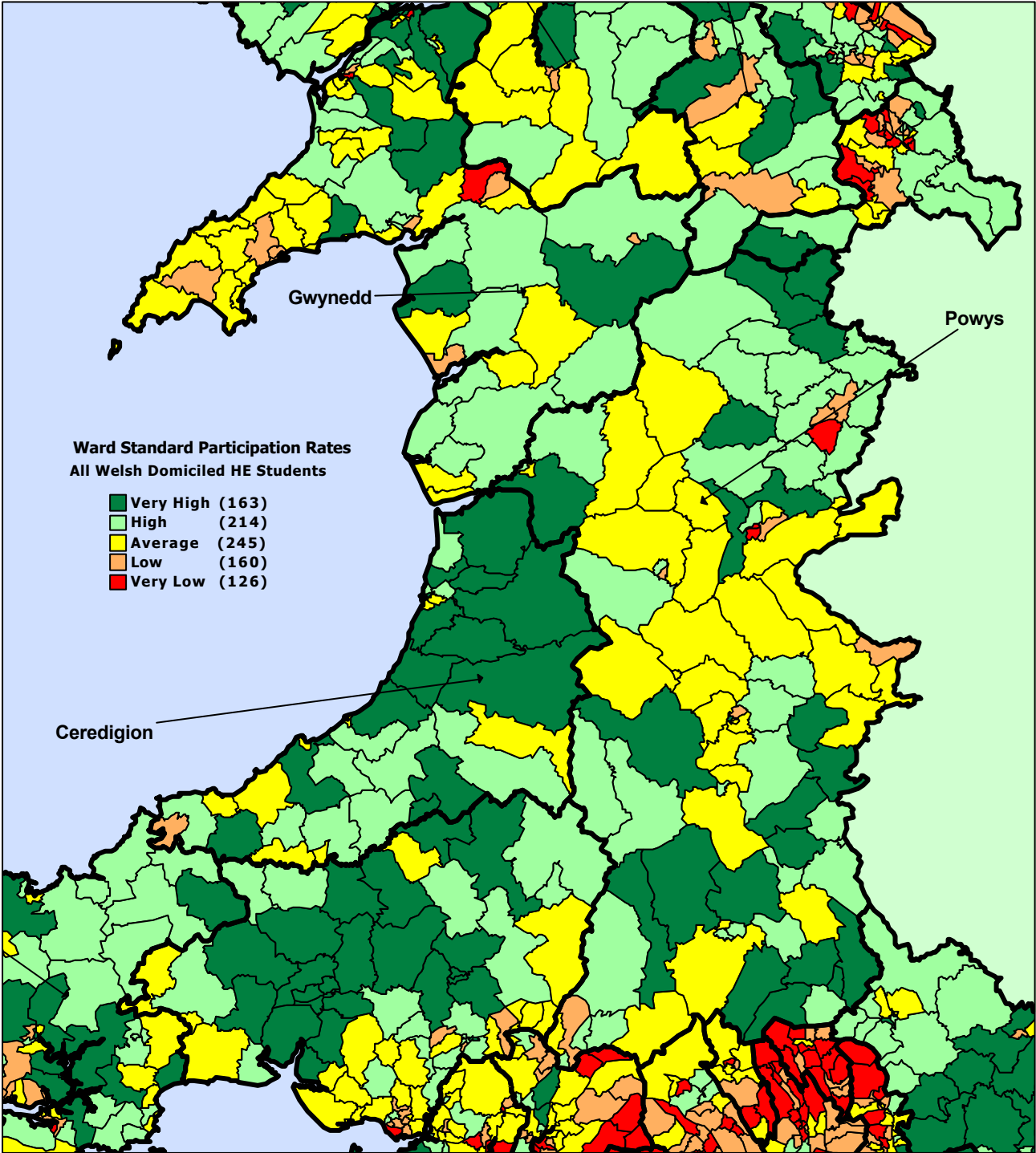
Unitary Authority	Standard Participation Rate	Unitary Authority	Standard Participation Rate
Isle of Anglesey	100	Neath Port Talbot	79
Gwynedd	114	Bridgend	86
Conwy	124	Vale of Glamorgan	112
Denbighshire	102	Rhondda Cynon Taff	83
Flintshire	96	Merthyr Tydfil	76
Wrexham	80	Caerphilly	66
Powys	124	Blaenau Gwent	53
Ceredigion	149	Torfaen	73
Pembrokeshire	110	Monmouthshire	130
Carmarthenshire	122	Newport	84
Swansea	108	Cardiff	101

Note: Due to rounding the figures in this table may appear to indicate that a unitary authority lies in a different band to that shown in the map.

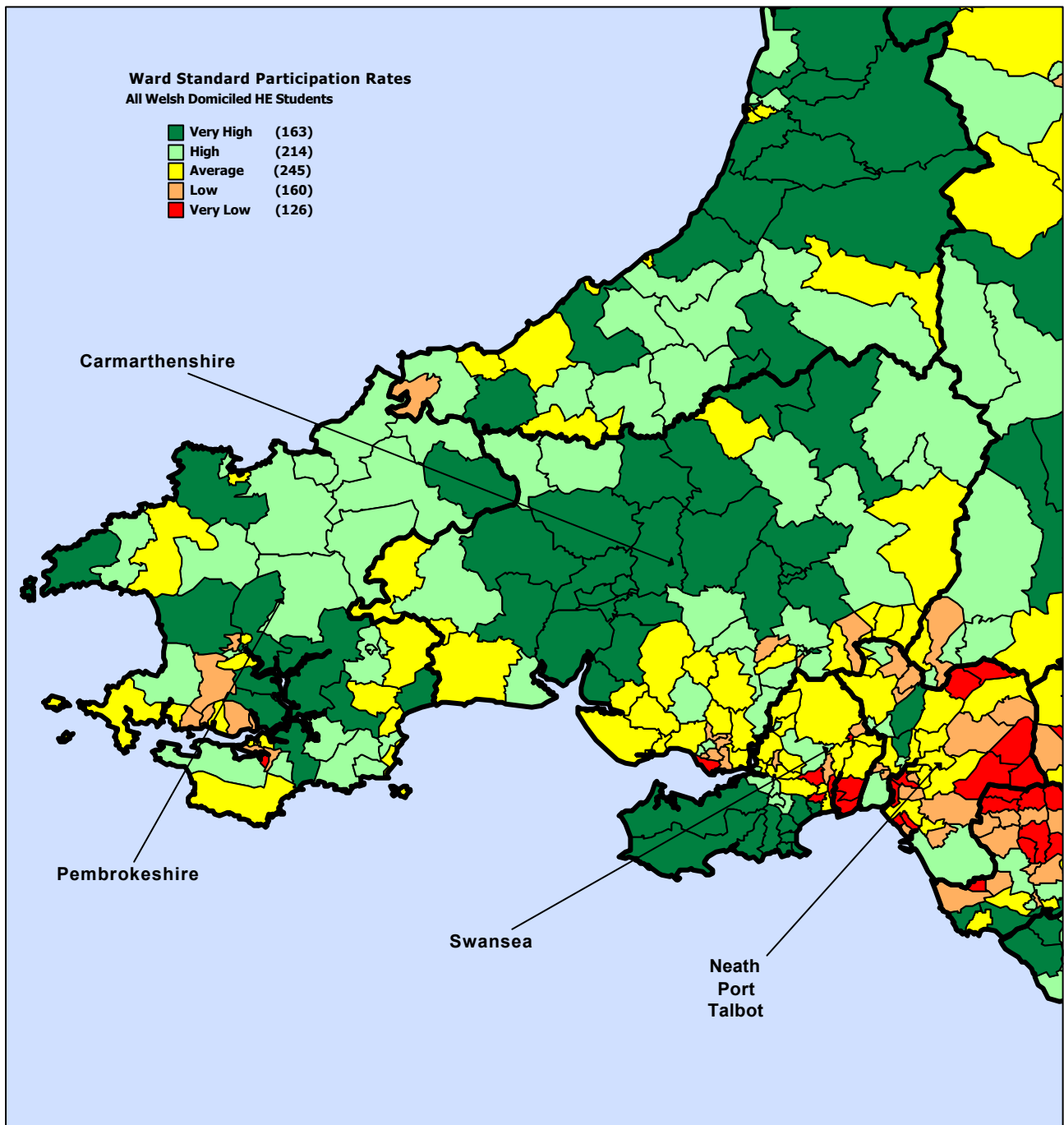
**Map 9: Detail of Standard Participation Rates in North Wales  
All Welsh HE Students by Electoral Division**



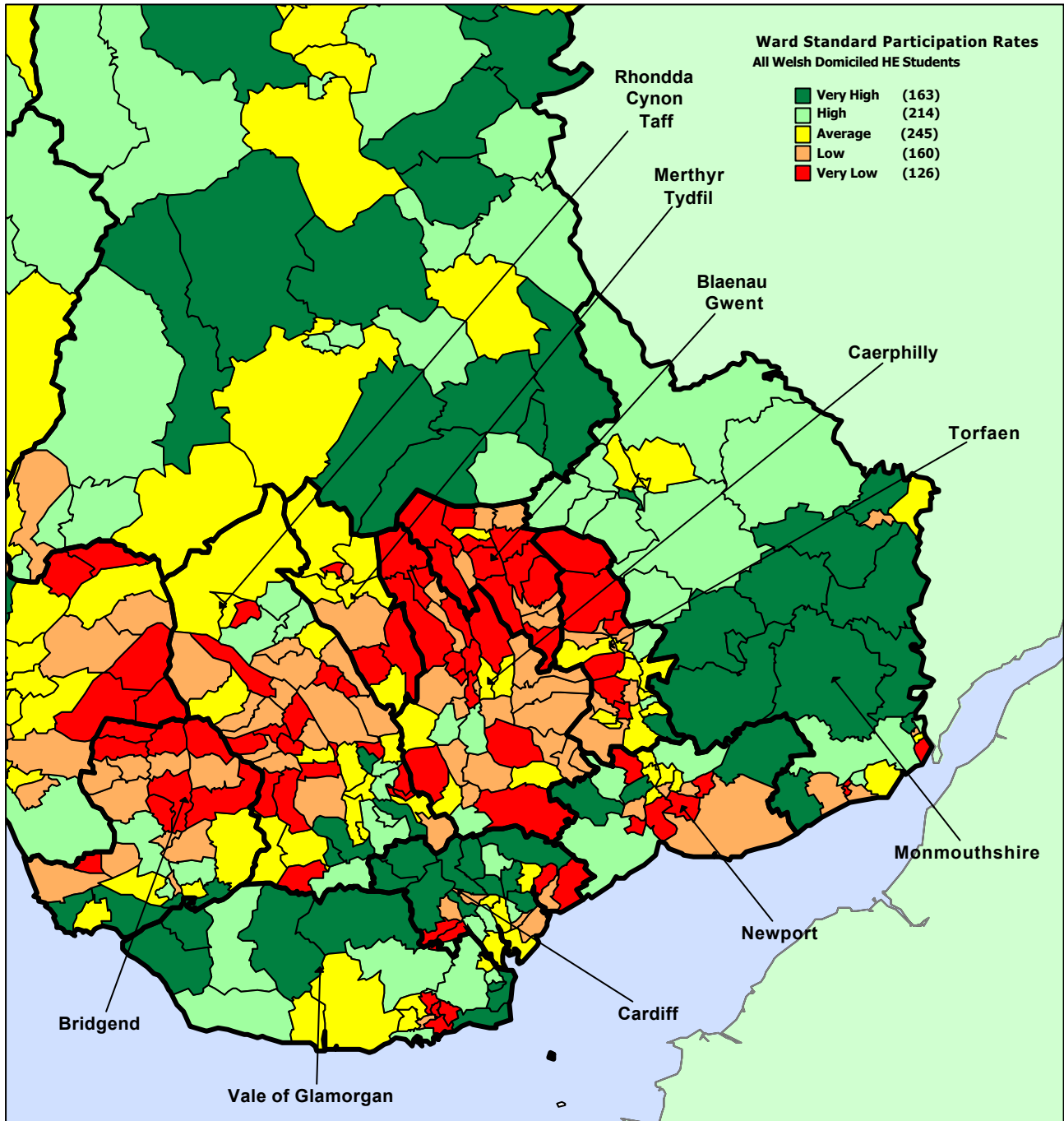
**Map 10. Detail of Standard Participation Rates in Mid Wales  
All Welsh HE Students by Electoral Division**



**Map 11. Detail of Standard Participation Rates in South West Wales  
All Welsh HE Students by Electoral Division**



**Map 12. Detail of Standard Participation Rates in South East Wales  
All Welsh HE Students by Electoral Division**



## ANNEX A : TABLES

Table 1 : Welsh Domiciled Students by Mode and Level of Study 2000/2001

INSTITUTIONS	Full-time				Part-time				TOTAL
	UG (degree)	UG (other)	PG (taught)	PG (research)	UG (degree)	UG (other)	PG (taught)	PG (research)	
Welsh HEIs	22,029	6,038	2,808	956	3,516	20,508	5,665	808	62,327
UK (non-Welsh) HEIs	19,690	1,511	1,472	728	1,030	2,389	2,528	340	29,687
Open University	0	0	0	6	0	5,697	709	19	6,431
Welsh FECs	43	375	0	0	26	1,434	137	0	2,015
UK (non-Welsh) FECs	128	225	7	0	67	360	20	0	807
<b>TOTAL</b>	<b>41,889</b>	<b>8,149</b>	<b>4,286</b>	<b>1,689</b>	<b>4,639</b>	<b>30,388</b>	<b>9,059</b>	<b>1,167</b>	<b>101,268</b>

Notes :

1) UG = undergraduate, PG = postgraduate

2) UK = United Kingdom, HEIs = Higher Education Institutions, FECs = Further Education Colleges

Table 2 : Welsh Domiciled Students by Gender, Mode of Study and Age Group 2000/2001

INSTITUTIONS	Male				Female				TOTAL
	Full-time		Part-time		Full-time		Part-time		
	Under 25	25 and over	Under 25	25 and over	Under 25	25 and over	Under 25	25 and over	
Welsh HEIs	10,419	2,915	2,403	10,154	13,375	5,120	2,213	15,727	62,327
UK (non-Welsh) HEIs	9,750	988	500	2,353	11,596	1,067	436	2,998	29,687
Open University	0	4	189	2,943	0	2	353	2940	6,431
Welsh FECs	119	81	323	491	125	93	220	563	2,015
UK (non-Welsh) FECs	166	33	91	162	129	32	84	110	807
<b>TOTAL</b>	<b>20,454</b>	<b>4,021</b>	<b>3,506</b>	<b>16,103</b>	<b>25,225</b>	<b>6,314</b>	<b>3,306</b>	<b>22,339</b>	<b>101,268</b>

Notes :

1) UK = United Kingdom, HEIs = Higher Education Institutions, FECs = Further Education Colleges

2) Age is the student's age on 31<sup>st</sup> August 2000

**Table 3 : Welsh Domiciled Students by Full-Time Equivalents 2000/2001**

<b>INSTITUTIONS</b>	<b>Less than 10% of a FTE</b>	<b>Greater than 10% of a FTE</b>	<b>TOTAL</b>
Welsh HEIs	4,194	58,133	<b>62,327</b>
UK (non-Welsh) HEIs	407	29,280	<b>29,687</b>
Open University	162	6,269	<b>6,431</b>
Welsh FECs	205	1,810	<b>2,015</b>
UK (non-Welsh) FECs	48	759	<b>807</b>
<b>TOTAL</b>	<b>5,016</b>	<b>96,251</b>	<b>101,268</b>

Notes :

- 1) UK = United Kingdom, HEIs = Higher Education Institutions, FECs = Further Education Colleges  
 2) FTE = Full-time equivalent

**Table 4 : Welsh Domiciled Students by Postcode 2000/2001**

<b>INSTITUTIONS</b>	<b>Students with Identifiable Postcodes</b>	<b>Students with Unidentifiable Postcodes</b>	<b>% of Postcodes which are Unidentifiable</b>	<b>TOTAL</b>
Welsh HEIs	60,465	1,862	3%	<b>62,327</b>
United Kingdom (non-Welsh) HEIs	25,141	4,546	15%	<b>29,687</b>
Open University	5,878	553	9%	<b>6,431</b>
Welsh FECs	1,896	119	6%	<b>2,015</b>
United Kingdom (non-Welsh) FECs	806	1	0%	<b>807</b>
<b>TOTAL</b>	<b>94,187</b>	<b>7,081</b>	<b>7%</b>	<b>101,268</b>

Note :

- 1) Unidentifiable postcodes are invalid postcodes returned by institutions

**Table 5 : National Participation Rates for all Welsh Domiciled Students 1998/99 – 2000/01**

<b>AGE</b>	<b>Percentage of Population in Higher Education</b>					
	<b>1998/1999</b>		<b>1999/2000</b>		<b>2000/2001</b>	
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>
16 to 17 years old	0.4	0.7	0.6	0.8	0.3	0.7
18 to 19 years old	23.9	27.3	23.6	28.8	23.5	30.0
20 to 24 years old	13.6	14.6	13.8	14.7	14.5	16.2
25 to 29 years old	4.7	4.9	4.5	5.0	4.4	5.4
30 to 39 years old	3.9	4.7	4.0	5.0	4.1	5.5
40 to 49 years old	2.0	3.0	2.1	3.2	2.2	3.6
50 to 59 years old	1.1	1.5	1.1	1.1	1.3	1.1
<b>ALL AGES</b>	<b>3.0</b>	<b>3.3</b>	<b>3.0</b>	<b>3.5</b>	<b>3.1</b>	<b>3.8</b>

Table 6a : Trends in Standard Participation Rates by Mode of Attendance 1998/99 – 2000/01

Unitary Authority	Standard Participation Rates for all Welsh Students			Standard Participation Rates for Full-time Students		
	1998/99	1999/00	2000/01	1998/99	1999/00	2000/01
Isle of Anglesey	109	107	100	119	117	109
Gwynedd	105	107	113	115	116	127
Conwy	112	118	124	121	134	133
Denbighshire	108	107	102	109	112	109
Flintshire	98	105	97	95	104	99
Wrexham	85	92	79	87	93	80
Powys	109	114	116	112	120	133
Ceredigion	146	147	139	139	125	115
Pembrokeshire	106	108	113	120	124	123
Carmarthenshire	108	115	125	121	128	123
Swansea	118	111	114	119	112	117
Neath Port Talbot	88	88	84	87	86	83
Bridgend	91	90	87	88	87	84
Vale of Glamorgan	123	124	117	125	125	120
Rhondda Cynon Taff	86	80	85	82	78	82
Merthyr Tydfil	79	80	78	76	72	69
Caerphilly	74	75	70	72	76	68
Blaenau Gwent	54	58	54	55	53	48
Torfaen	86	85	78	87	83	73
Monmouthshire	124	128	130	134	145	150
Newport	93	96	91	95	100	88
Cardiff	111	106	112	99	92	96
<b>Standard Deviation</b>	<b>19.9</b>	<b>20.0</b>	<b>21.8</b>	<b>21.9</b>	<b>23.5</b>	<b>26.2</b>

Table 6b : Trends in Standard Participation Rates for Part-time Students 1998/99 – 2000/01

Unitary Authority	Standard Participation Rates for Part-time Students			Standard Participation Rates for Part-time Students (excluding low-credit students)		
	1998/99	1999/00	2000/01	1998/99	1999/00	2000/01
Isle of Anglesey	92	92	87	83	84	85
Gwynedd	89	90	93	81	82	88
Conwy	101	102	115	93	99	115
Denbighshire	107	101	94	101	100	92
Flintshire	104	107	95	106	109	100
Wrexham	84	91	79	87	93	84
Powys	105	106	99	104	104	99
Ceredigion	150	171	165	125	132	128
Pembrokeshire	89	92	103	92	96	102
Carmarthenshire	92	101	128	95	105	115
Swansea	112	107	106	111	105	104
Neath Port Talbot	92	91	86	96	93	90
Bridgend	96	95	92	103	101	99
Vale of Glamorgan	121	125	112	121	125	114
Rhondda Cynon Taff	92	85	90	98	90	96
Merthyr Tydfil	86	93	92	94	101	99
Caerphilly	78	77	75	81	81	80
Blaenau Gwent	56	67	65	61	70	70
Torfaen	88	87	85	93	92	89
Monmouthshire	112	109	109	110	112	109
Newport	92	92	96	97	97	102
Cardiff	127	122	131	123	119	128
<b>Standard Deviation</b>	<b>19.0</b>	<b>20.6</b>	<b>21.6</b>	<b>15.1</b>	<b>14.5</b>	<b>14.8</b>

**Table 6c : Trends in Standard Participation Rates for Full-time Undergraduate Students by Age 1998/99 – 2000/01**

Unitary Authority	Standard Participation Rates for Full-time Undergraduate Students (under 25 years of age)			Standard Participation Rates for Full-time Undergraduate Students (25 years of age or older)		
	1998/99	1999/00	2000/01	1998/99	1999/00	2000/01
Isle of Anglesey	118	115	106	128	125	125
Gwynedd	107	109	119	141	147	154
Conwy	119	132	128	141	146	165
Denbighshire	113	114	107	102	104	127
Flintshire	100	109	98	82	95	119
Wrexham	87	92	76	96	106	121
Powys	124	131	143	70	81	93
Ceredigion	126	113	109	175	176	144
Pembrokeshire	130	132	130	92	100	100
Carmarthenshire	122	130	125	118	122	115
Swansea	118	110	117	119	115	108
Neath Port Talbot	90	89	85	76	70	72
Bridgend	89	87	82	89	87	96
Vale of Glamorgan	131	131	126	106	95	87
Rhondda Cynon Taff	81	78	82	88	83	88
Merthyr Tydfil	74	71	67	87	78	97
Caerphilly	74	77	69	66	69	70
Blaenau Gwent	57	54	46	50	60	68
Torfaen	89	85	73	77	75	80
Monmouthshire	146	158	158	83	92	105
Newport	93	97	84	109	113	116
Cardiff	90	82	89	114	115	109
<b>Standard Deviation</b>	<b>22.7</b>	<b>25.4</b>	<b>28.0</b>	<b>29.0</b>	<b>28.6</b>	<b>26.0</b>

**Table 6d : Trends in Standard Participation Rates by Gender 1998/99 – 2000/01**

Unitary Authority	Standard Participation Rates for Male Students			Standard Participation Rates for Female students		
	1998/99	1999/00	2000/01	1998/99	1999/00	2000/01
Isle of Anglesey	105	99	100	112	113	100
Gwynedd	100	102	111	110	110	114
Conwy	111	115	123	113	121	124
Denbighshire	101	101	101	114	111	102
Flintshire	96	103	98	100	106	96
Wrexham	85	88	78	86	95	80
Powys	101	107	107	116	120	124
Ceredigion	130	130	126	160	161	149
Pembrokeshire	103	105	115	108	110	110
Carmarthenshire	104	113	128	112	117	122
Swansea	120	112	121	116	111	108
Neath Port Talbot	96	94	91	82	83	79
Bridgend	94	90	88	88	89	86
Vale of Glamorgan	126	129	122	121	121	112
Rhondda Cynon Taff	86	80	88	85	81	83
Merthyr Tydfil	85	83	79	74	77	76
Caerphilly	75	77	76	73	74	66
Blaenau Gwent	56	61	57	53	56	53
Torfaen	92	90	85	82	80	73
Monmouthshire	120	126	129	128	130	130
Newport	100	104	102	88	89	84
Cardiff	115	110	129	108	102	101
<b>Standard Deviation</b>	<b>17.1</b>	<b>17.3</b>	<b>20.5</b>	<b>23.0</b>	<b>23.0</b>	<b>23.7</b>

Table 7a : Trends in Student Numbers by Mode of Attendance 1998/99 – 2000/01

Unitary Authority	Number of all Welsh Students				Number of Full-time Students			
	1998/99	1999/00	2000/01	% change 98/99 to 00/01	1998/99	1999/00	2000/01	% change 98/99 to 00/01
Isle of Anglesey	2,292	2,291	2,462	7.4%	1,423	1,370	1,455	2.2%
Gwynedd	3,769	3,899	4,251	12.8%	2,348	2,372	2,522	7.4%
Conwy	3,545	3,744	4,156	17.2%	2,119	2,215	2,325	9.7%
Denbighshire	2,980	2,982	3,208	7.7%	1,686	1,676	1,827	8.4%
Flintshire	4,668	5,020	5,272	12.9%	2,564	2,704	2,961	15.5%
Wrexham	3,504	3,866	3,966	13.2%	2,056	2,202	2,283	11.0%
Powys	4,087	4,298	4,422	8.2%	2,325	2,389	2,538	9.1%
Ceredigion	3,065	3,260	3,500	14.2%	1,622	1,534	1,548	-4.5%
Pembrokeshire	3,651	3,772	4,077	11.7%	2,307	2,302	2,331	1.0%
Carmarthenshire	5,481	5,931	6,987	27.5%	3,387	3,499	3,571	5.4%
Swansea	8,328	8,264	8,444	1.4%	4,756	4,621	4,591	-3.5%
Neath Port Talbot	3,725	3,779	3,842	3.1%	2,043	2,001	2,054	0.5%
Bridgend	3,912	3,908	4,140	5.8%	2,160	2,074	2,192	1.5%
Vale of Glamorgan	4,675	4,754	4,668	-0.1%	2,685	2,564	2,539	-5.4%
Rhondda Cynon Taff	6,749	6,540	6,887	2.0%	3,713	3,532	3,559	-4.2%
Merthyr Tydfil	1,456	1,484	1,667	14.5%	813	752	852	4.8%
Caerphilly	4,011	4,216	4,441	10.7%	2,241	2,331	2,388	6.6%
Blaenau Gwent	1,287	1,420	1,437	11.6%	745	722	713	-4.3%
Torfaen	2,475	2,461	2,500	1.0%	1,406	1,332	1,295	-7.9%
Monmouthshire	3,278	3,451	3,638	11.0%	1,946	2,053	2,162	11.1%
Newport	3,937	4,123	4,390	11.5%	2,283	2,396	2,391	4.7%
Cardiff	11,509	11,863	12,909	12.2%	5,910	5,964	6,227	5.4%
<b>All Wales</b>	<b>92,384</b>	<b>95,326</b>	<b>101,265</b>	<b>9.6%</b>	<b>52,538</b>	<b>52,605</b>	<b>54,323</b>	<b>3.4%</b>

Note :

1) Totals might differ slightly to figures in Tables 1 to 3 due to rounding.

Table 7b : Trends in Student Numbers for Part-time Students 1998/99 – 2000/01

Unitary Authority	Number of Part-time Students				Number of Part-time Students (excluding low-credit students)			
	1998/99	1999/00	2000/01	% change 98/99 to 00/01	1998/99	1999/00	2000/01	% change 98/99 to 00/01
Isle of Anglesey	783	835	907	15.9%	634	683	788	24.3%
Gwynedd	1,280	1,372	1,566	22.3%	1,035	1,120	1,314	26.9%
Conwy	1,331	1,437	1,745	31.1%	1,093	1,252	1,531	40.1%
Denbighshire	1,220	1,235	1,311	7.5%	1,028	1,091	1,134	10.3%
Flintshire	1,994	2,200	2,190	9.8%	1,834	2,024	2,045	11.5%
Wrexham	1,350	1,578	1,591	17.8%	1,253	1,447	1,501	19.8%
Powys	1,641	1,781	1,767	7.7%	1,462	1,572	1,557	6.5%
Ceredigion	1,305	1,594	1,803	38.2%	972	1,100	1,237	27.2%
Pembrokeshire	1,273	1,407	1,680	32.0%	1,179	1,312	1,463	24.1%
Carmarthenshire	1,934	2,276	3,266	68.9%	1,784	2,111	2,595	45.5%
Swansea	3,185	3,291	3,522	10.6%	2,832	2,905	3,065	8.2%
Neath Port Talbot	1,591	1,674	1,700	6.9%	1,486	1,541	1,587	6.8%
Bridgend	1,666	1,745	1,854	11.3%	1,603	1,683	1,771	10.5%
Vale of Glamorgan	1,869	2,060	2,005	7.3%	1,683	1,859	1,814	7.8%
Rhondda Cynon Taff	2,887	2,862	3,188	10.4%	2,754	2,731	3,022	9.7%
Merthyr Tydfil	625	712	789	26.2%	611	697	761	24.5%
Caerphilly	1,696	1,796	1,951	15.0%	1,585	1,703	1,859	17.3%
Blaenau Gwent	527	677	698	32.5%	513	631	670	30.5%
Torfaen	1,015	1,067	1,147	13.1%	966	1,020	1,077	11.5%
Monmouthshire	1,239	1,308	1,393	12.4%	1,092	1,209	1,245	14.0%
Newport	1,562	1,637	1,892	21.1%	1,471	1,556	1,778	20.8%
Cardiff	5,135	5,352	6,119	19.2%	4,453	4,727	5,345	20.0%
<b>All Wales</b>	<b>37,108</b>	<b>39,896</b>	<b>44,085</b>	<b>18.8%</b>	<b>33,323</b>	<b>35,974</b>	<b>39,157</b>	<b>17.5%</b>

Note :

1) Totals might differ slightly to figures in Tables 1 to 3 due to rounding.

**Table 7c : Trends in Student Numbers for Full-time Undergraduate Students by Age  
1998/99 – 2000/01**

Unitary Authority	Number of Full-time Undergraduate Students (under 25 years of age)				Number of Full-time Undergraduate Students (25 years of age or older)			
	1998/99	1999/00	2000/01	% change 98/99 to 00/01	1998/99	1999/00	2000/01	% change 98/99 to 00/01
Isle of Anglesey	1,081	1,062	1,130	4.6%	238	212	208	-12.8%
Gwynedd	1,686	1,745	1,846	9.5%	439	417	434	-1.2%
Conwy	1,583	1,675	1,779	12.4%	400	388	386	-3.6%
Denbighshire	1,332	1,319	1,423	6.8%	252	241	280	11.2%
Flintshire	2,054	2,175	2,327	13.3%	358	387	453	26.5%
Wrexham	1,602	1,726	1,772	10.6%	343	354	383	11.5%
Powys	1,951	1,992	2,118	8.6%	240	258	264	10.2%
Ceredigion	1,125	1,097	1,160	3.1%	330	293	254	-23.1%
Pembrokeshire	1,892	1,897	1,934	2.2%	290	292	260	-10.4%
Carmarthenshire	2,616	2,742	2,826	8.0%	539	517	481	-10.8%
Swansea	3,621	3,587	3,548	-2.0%	750	658	615	-18.0%
Neath Port Talbot	1,607	1,608	1,656	3.0%	290	249	233	-19.7%
Bridgend	1,666	1,621	1,718	3.1%	348	319	316	-9.3%
Vale of Glamorgan	2,143	2,068	2,077	-3.1%	368	313	262	-28.9%
Rhondda Cynon Taff	2,817	2,741	2,772	-1.6%	625	549	535	-14.4%
Merthyr Tydfil	612	583	663	8.4%	141	116	132	-6.1%
Caerphilly	1,762	1,848	1,943	10.3%	324	319	303	-6.5%
Blaenau Gwent	592	572	554	-6.4%	105	115	117	11.2%
Torfaen	1,103	1,057	1,032	-6.5%	202	179	176	-12.7%
Monmouthshire	1,615	1,702	1,776	10.0%	201	214	217	7.7%
Newport	1,723	1,820	1,852	7.5%	414	390	364	-12.1%
Cardiff	4,112	4,229	4,522	10.0%	1,072	986	937	-12.6%
<b>All Wales</b>	<b>40,295</b>	<b>40,866</b>	<b>42,428</b>	<b>5.3%</b>	<b>8,269</b>	<b>7,766</b>	<b>7,608</b>	<b>-8.0%</b>

Note :

1) Totals might differ slightly to figures in Tables 1 to 3 due to rounding.

**Table 7d : Trends in Student Numbers by Gender 1998/99 – 2000/01**

Unitary Authority	Number of Male Students				Number of Female Students			
	1998/99	1999/00	2000/01	% change 98/99 to 00/01	1998/99	1999/00	2000/01	% change 98/99 to 00/01
Isle of Anglesey	1,030	978	1,049	1.9%	1,264	1,313	1,414	11.9%
Gwynedd	1,646	1,679	1,746	6.1%	2,123	2,221	2,505	18.0%
Conwy	1,565	1,608	1,721	9.9%	1,980	2,136	2,435	23.0%
Denbighshire	1,266	1,256	1,339	5.7%	1,713	1,726	1,869	9.1%
Flintshire	2,115	2,227	2,296	8.6%	2,553	2,793	2,976	16.6%
Wrexham	1,596	1,690	1,712	7.3%	1,907	2,176	2,254	18.2%
Powys	1,779	1,849	1,786	0.4%	2,308	2,448	2,637	14.2%
Ceredigion	1,247	1,301	1,299	4.2%	1,818	1,959	2,201	21.0%
Pembrokeshire	1,629	1,663	1,754	7.7%	2,022	2,109	2,322	14.9%
Carmarthenshire	2,394	2,581	2,933	22.5%	3,088	3,350	4,054	31.3%
Swansea	3,864	3,765	3,796	-1.8%	4,463	4,499	4,648	4.1%
Neath Port Talbot	1,853	1,812	1,771	-4.4%	1,871	1,967	2,071	10.6%
Bridgend	1,818	1,742	1,797	-1.2%	2,094	2,166	2,344	11.9%
Vale of Glamorgan	2,175	2,183	2,080	-4.4%	2,500	2,571	2,588	3.5%
Rhondda Cynon Taff	3,136	2,950	2,953	-5.9%	3,613	3,590	3,934	8.9%
Merthyr Tydfil	705	693	713	1.1%	751	791	954	27.0%
Caerphilly	1,873	1,945	2,036	8.7%	2,138	2,271	2,405	12.5%
Blaenau Gwent	615	678	633	2.9%	673	742	804	19.5%
Torfaen	1,204	1,185	1,132	-6.0%	1,270	1,276	1,368	7.7%
Monmouthshire	1,460	1,538	1,593	9.1%	1,818	1,913	2,045	12.5%
Newport	1,907	2,013	2,046	7.3%	2,031	2,110	2,345	15.5%
Cardiff	5,396	5,505	5,900	9.3%	6,113	6,359	7,009	14.7%
<b>All Wales</b>	<b>42,273</b>	<b>42,481</b>	<b>44,083</b>	<b>4.3%</b>	<b>50,111</b>	<b>52,486</b>	<b>57,182</b>	<b>14.1%</b>

Note :

1) Totals might differ slightly to figures in Tables 1 to 3 due to rounding.

## ANNEX B : TECHNICAL DETAILS

### ■ PARTICIPATION RATES

- 1 The Department for Education and Skills (DfES) uses a participation rate in higher education, for trend examination and planning purposes, which is known as the Age Participation Index (API). The definition for the API is;

$$\frac{\text{The Number of Young (under 21) Full Time and Sandwich New Entrants}}{\text{The Average Number of 18 and 19 year olds in the Population}} \times 100 \quad (1)$$

- 2 Although the Age Participation Index has historically been used within the higher education sector to follow trends, it is clearly not an all inclusive participation rate, as by no means are all higher education new entrants either studying full-time or on sandwich courses, and neither are they predominantly young students arriving straight from school or sixth form college. By way of example, of the 37,600 new entrants to Welsh HEIs in the 2000/01 academic year, only 42 per cent were both studying full-time or sandwich courses and were younger than 21. What the API formula calculates is the chance of a young person going into higher education before they are 21, based on a snap-shot of the present year. Such a formula is useful for overall national trend analyses but provides only a partial picture as the part-time and mature student populations are excluded. These can be significant factors.
- 3 A broader definition of a student participation rate is one which gives the total number of students from a region as a proportion of the total population. To accommodate regional variations, this definition can be extended to take account of the age and gender profile of each region. Mathematically this can be described by the following formula;

$$\sum_{\text{all } x} \left( \frac{\text{Number of Students of sex / age } x}{\text{Number in Population of sex / age } x} \right) \times 100 \quad (2)$$

- 4 Equation (2) is both the formula used in the participation rates published by HESA in *Higher Education Management Statistics - Sector Level 2000/01* (October 2002), and is also the definition of participation rate employed by work commissioned by SHEFC in looking at Scottish HE students (*Participation in Higher Education in Scotland 1996-97*, Applied Statistics Group at Napier University). This report follows this approach, standardising the calculated rates for each of the 908 Welsh Census Wards according to the Welsh national participation rate. Not only is this in line with the above publications within the higher education sector but it is also similar to the approach taken in the health sector in the calculation of Standardised Mortality Ratios (SMRs).
- 5 In mathematical terms, the definition of “Standard Participation Rate” used within this report is;

$$\sum_{\text{all } x} \left( \frac{\text{Actual Number of Students in Ward of sex/ age } x}{\text{Expected Number of Students in Ward of sex / age } x} \right) \times 100 \quad (3)$$

where the,

$$\text{Expected Number of Students in Ward of sex / age } x = (\text{Population in Ward of sex / age } x) \times (\text{National Participation Rate of sex / age } x) \quad (4)$$

and,

$$\text{National Participation Rate of sex / age } x = \frac{\text{Total number of Welsh Students of sex / age } x}{\text{Total Population of Wales of sex / age } x} \quad (5)$$

#### ■ METHODS OF POSTCODE ANALYSIS

- 6 To arrive at standard participation rates for each of the 908 1991 census electoral wards in Wales, every student postcode must be mapped to its own particular ward. Out of 101,268 Welsh HE students it was found that 7 per cent had missing, unreadable or invalid postcodes.
- 7 Although a 93 per cent success rate at mapping students to 1991 Census Wards would seem high, the distribution of students with unidentified postcodes is not necessarily uniform across the wards of Wales and the missing data could therefore result in distortion of the participation rate profile. In fact, 26 per cent of the unidentified postcodes correspond to students studying at either the University of Wales, Bangor or Liverpool John Moores University. This clumping of missing data at a small number of institutions is clearly likely to lead to distortion and so Welsh wards have been assigned to these students with unidentifiable postcodes by assuming that they live in the same wards as fellow Welsh students from their particular institution. The students with unmapped postcodes are divided proportionately between the wards according to the profile of their fellow students.

#### ■ PROBLEMS OF LOW WARD STUDENT POPULATIONS

- 8 The expected student population is defined in equation (4) as the national participation rate multiplied by the ward population, summed over all gender and age categories. A ward will have a low expected student population if either:
  - the total ward population is low, or
  - the number of young adults in the ward is low.
- 9 The low expected student populations occur predominantly in the rural areas of Wales. As a low expected student population can result in a large change in standard participation rate for a small change in student numbers, care must be taken with these wards. To alleviate this problem a coefficient is added to both the actual student populations and the expected student populations. This coefficient is calculated from the distribution of all the ward standard participation rates and has the effect of removing the “statistical noise” in the calculated standard participation rates without unreasonably distorting the nature of the data being used in the calculation.

#### ■ RESIDENT POPULATIONS OF ELECTORAL WARDS

- 10 The wards used in this analysis are those of the 1991 Census. To derive participation rates it is necessary to have a breakdown of the local population, thus the data used in this analysis is split according to gender and 21 age categories.
- 11 The population figures used have been arrived at by combining Census based population data with population growth rate data. The base population data used was 1996 ward population estimates supplied by a commercial company. These 1996 population estimates were calculated by the application of various growth factors to the 1991 Census populations. As in previous analyses, NHS population data was used to “grow” the 1996 populations to generate estimates for the 1998 populations (see HEFCW circular

W00/108HE). Population growth rates between 1998/99 and 2000/01 were calculated, by gender, age group and Unitary Authority, using 1998 Mid-year population estimate data and Census 2001 data. These population growth rates were applied to the ward level 1998 population data in order to calculate 2000 population estimates. At the time of analysis full local area 2001 Census data was not available, however it is anticipated that future analysis will use the 2001 Census figures as the baseline population data.

- 12 The Census figures used locate students, as far as possible, at their home address and not at their term time address. This is essential in establishing meaningful small area participation rates.