

Population Data Sources

The population of Wales is continuously changing in terms of age structure and its mobility. Population and migration statistics are important for policy development and for planning and providing public services. There is a high demand for population and migration statistics for a variety of uses. Some of these include:

- As part of the Local Government Finance revenue settlement.
- Planning services and estimating future need, e.g. schools, health and social services provision.
- Policy development.
- For the calculation of further statistics e.g. Spatial Plan Areas, Housing Estimates and Projections.
- As denominators in rates (e.g. birth rates).
- For the purposes of weighting surveys.
- Geographic profiling, comparisons and benchmarking.
- Analysis of population cohorts and migration trends.

This document outlines the main sources of population and migration data within Wales. Information is provided on definitions, frequency, availability, revisions and any data limitations. Information on further sources of information is also provided at the end of the document.

Main Sources of Information

Population Estimates

- Mid-year estimates – National and LA level
- Small area population estimates (SAPE), National Park and ward estimates
- Population estimates by ethnic group

Migration Estimates

- Internal (within UK) migration
- International migration

Population projections

- National projections
- Local authority projections
- National Park projections

Further Sources

- Short term migration
- Census of Population
- Electoral Roll data
- Household estimates and projections

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Welsh Government

Mid-year estimates of the population

Definition and Source	<p>Mid-year estimates of population (which denote the population as at 30 June each year) are produced by the Office for National Statistics (ONS). Usual residents away from home temporarily are included, but visitors are excluded. Students are counted at their term time address. It should also be noted that the UN definition of an international migrant is used – those changing country of residence for a period of at least 12 months. Short-term migrants (e.g. migrant workers from Eastern European countries) are not counted in the population estimates.</p>
Use for data	<p>Mid-year population estimates are currently used as part of the Local Government Finance revenue settlement, for planning and monitoring services, for research and for calculating ratios and rates (e.g. fertility, mortality, etc). Population estimates are the basis for population projections and they are also used for geographic profiling, comparisons and benchmarking, and for the purposes of weighting surveys.</p>
Methodology	<p>Mid-year population estimates use the Cohort Component method. The previous year's population is aged on by a year, births are added, deaths are subtracted and estimates of internal (within UK) and international migration are also included. Adjustments are made for certain special population groups such as prisoners, armed forces, school boarders and asylum seekers. Full guidance on the methodology used by ONS to produce the population estimates can be accessed at:</p> <p>http://www.ons.gov.uk/ons/guide-method/method-quality/specific/population-and-migration/pop-ests/index.html</p>
Frequency	<p>Mid year estimates have previously been published in August every year, however in 2010 the estimates were published in June, as a result of the improvements made to the estimates as part of ONS' Improving Population and Migration (IMPS) project.</p>
Availability	<p>Mid-year estimates are published at national and local authority level. Estimates are available by single year of age and gender.</p>
Revisions and limitations	<p>Mid-year estimates (MYE) of population are occasionally revised (e.g. following a Census of Population or a change in methodology). ONS in partnership with other organisations have a long-term programme of work on improving migration and population statistics, and consequently mid year estimates from 2002-2008 were revised on May 13th 2010.</p> <p>The methodological improvements included:</p> <ul style="list-style-type: none"> • Improved estimation of the distribution of international migrants between local authority areas in England and Wales; • Improved estimates of the migration of students within England and Wales. <p>The improved estimation of the distribution of international migrants between LAs is based on more up to date data sources that replace the use of 2001 Census data for this purpose. Higher Education Statistics Agency (HESA) data is used to</p>

	<p>improve the estimation of the migration of students within England and Wales at the start and end of their studies.</p> <p>Further information on the revisions is available at: http://www.ons.gov.uk/ons/guide-method/revisions/guide-to-statistical-revisions/index.html</p>
Accessing the data	<p>Links to MYE bulletins are available on the Population and Migration Theme Page: http://wales.gov.uk/topics/statistics/theme/population</p> <p>The data are available by single year of age and gender on StatsWales: https://statswales.wales.gov.uk/Catalogue/Population-and-Migration/Population/Estimates</p>

Small Area Population Estimates (SAPE)

Definition and Source	<p>Small area population estimates for England and Wales are produced by ONS. Estimates are available for Census Area Statistics (CAS) and statistical wards, National Park geographies and for geographies referred to as Lower and Middle Super Output Areas (LSOA and MSOA).</p> <p>Estimates are also available for Parliamentary constituencies.</p> <p>There are around 1,900 LSOAs in Wales, with a mean population of around 1,500. There are around 400 MSOAs in Wales, with a mean population of around 7,100.</p>
Use for data	<p>Small area population estimates can be used to track population change in small areas, for service planning and monitoring, and for calculating rates.</p> <p>Small area population estimates are used in the Welsh Index of Multiple Deprivation. Small area population estimates can also be used to build-up population estimates for other geographies e.g. Heads of the Valleys and Communities First Areas, and Spatial Plan Areas.</p>
Methodology	<p>Small area population estimates are based on a Ratio Change method, which involves applying a change ratio. The change ratio uses a combination of sources – patient registers, Child Benefit dataset and Older Persons dataset. The Older Persons datasets were created from a number of DWP individual datasets. This method assumes that, for each area, the data should have a consistent relationship with the true population over time.</p>
Frequency	<p>Small area population estimates are usually published annually however due to the revisions made to the estimates as a result of the IMPS project, publication timings have varied recently. Revised LSOA/MSOA data are available from mid-2001 to mid-2008, and mid-2009 data was published in November 2010. Revised ward and National Park data and new mid-2009 data for these geographies are expected to be published in early 2011.</p>
Availability	<p>Data is available by single year of age and gender, but due to the experimental nature of the statistics, the data are generally published by broad age group.</p>

Revisions and limitations	<p>ONS in partnership with other organisations have a long-term programme of work on improving migration and population statistics, and consequently SAPE population estimates from 2002-2008 are being revised.</p> <p>Revised LSOA/MSOA data are available from mid-2002 to mid-2008, and mid-2009 data was published in November 2010. Revised ward and National Park data and new mid-2009 data for these geographies were published in early 2011.</p> <p>Further information on the revisions is available at: http://www.ons.gov.uk/ons/guide-method/method-quality/specific/population-and-migration/future-plans/plans-for-review-of-population-estimates/index.html</p>
Accessing the data	<p>Small area population estimates together with further detail on the methodology can be accessed at: http://wales.gov.uk/topics/statistics/theme/population</p> <p>LSOA, MSOA and USOA data are available on StatsWales: https://statswales.wales.gov.uk/Catalogue/Population-and-Migration/Population/Estimates</p>

Population Estimates by Ethnic Group

Definition and Source	<p>Population estimates by ethnic group for Wales are produced by the Office for National Statistics (ONS). The definition is the same as that for the mid year estimates.</p> <p>For the purpose of the estimates:</p> <ul style="list-style-type: none"> • Ethnic group is self-assigned; • The classification used is the 16-way classification adopted in the 2001 census; • A person's ethnic group can change over time; • Description of ethnic group can change in different contexts. Reliance on the census data in the modelling process has the de facto effect that the estimates will accord with the context of the census – in particular, this will reflect any effect due to proxy responses by the form-filler on behalf of another household member.
Use for data	<p>Data are used for demographic analysis and as an indication of the effects of migration on local authority areas.</p>
Methodology	<p>Population estimates by ethnic group for Wales are produced using a cohort component method. This requires the estimation of the base population, ageing the population on, adding births, subtracting deaths and adjusting for migration.</p> <p>The base population used is the 2001 census count by single year of age, sex and ethnic group. Differences in fertility between ethnic groups and differences in propensities to migrate for each ethnic group are also estimated from the 2001 census. Estimates of international migration combine census information on</p>

	<p>country of birth and ethnic group with other data (e.g. the International Passenger Survey) on country of birth or nationality of the migrant for the year in question. Consideration is given to the modelling of the ethnic dimension of mortality, fertility (and the allocation of ethnic group to infants), switching between ethnic group categories, and the various aspects of migration, with particular attention given to the application of specially commissioned census data. Data is constrained to the Office for National Statistics (ONS) national and local mid-year population estimates. More information on methodology used to produce these estimates, including information on their reliability, can be found at:</p> <p>http://www.ons.gov.uk/ons/guide-method/method-quality/specific/population-and-migration/pop-ests/population-estimates-by-ethnic-group/index.html</p>
Frequency	<p>Population Estimates by Ethnic Group, 2001-2007 produced by the Office for National Statistics (ONS) were released on 15th January 2010 according to the arrangements approved by the UK Statistics Authority. These were revised on 18th May 2011 as part of ONS' project to improve population and migration statistics.</p>
Availability	<p>Data are available by ethnic group, local authority, gender and broad age.</p>
Revisions and limitations	<p>Population Estimates by ethnic group are experimental statistics. This means that they have not yet been known to meet the quality criteria for National Statistics, but are being published to involve users in the development of the methodology and to help build quality at an early stage.</p>
Accessing the data	<p>A bulletin is available on the Population and Migration Theme Page: http://wales.gov.uk/topics/statistics/theme/population</p> <p>Data are available on StatsWales by broad age, ethnic group, LA and gender: https://statswales.wales.gov.uk/Catalogue/Equality-and-Diversity/Ethnicity/Population-Estimates</p>

Internal (within the UK) migration

Definition and Source	<p>The UK doesn't have a compulsory system to record the movement of its citizens; therefore data from health registers are used as a proxy.</p> <p>An internal migrant is defined as a person who has changed his/her General Practitioner (GP) area of residence within the UK between one year and the next.</p>
Use for data	<p>Internal migration estimates form an important component of mid-year estimates of population. Migration estimates are used to analyse the impact on the age profile of areas and planning service provision.</p>
Methodology	<p>The National Health Service Central Register (NHSCR) records the movement of patients between former health authority areas. This data is used to estimate the number of migrants moving to/from Wales and from/to the rest of the UK.</p> <p>Each Health Authority in England and Wales holds a register of patients registered with its GPs, called the Patient Register Data System (PRDS). Combining every patient register in England and Wales and comparing with the register from the previous year identifies people who have changed their address. These are combined with migration data from the NSHCR to give internal migration estimates at local authority level.</p>
Frequency	<p>Estimates of internal migration at an all-Wales level are published on a quarterly basis, and are based on NHSCR data. Estimates of internal migration at local authority level are published annually, and are based on data from the PRDS.</p>
Availability	<p>Internal migration estimates are available at national and local authority level, by gender and varying age groups.</p>
Revisions and limitations	<p>Migration estimates based on health records are dependent on patients re-registering quickly with a doctor when they move. When using the data, ONS assume that the average delay between moving house and the NHSCR being notified is about one month. However, it is known that re-registration patterns vary by age and sex, and is a particular issue in areas with a high number of students.</p> <p>ONS in partnership with other organisations have a long-term programme of work on improving migration and population statistics, and consequently migration estimates from 2002-2008 were revised on May 13th 2010.</p> <p>The methodological improvements included improved estimates of the migration of students within England and Wales. Higher Education Statistics Agency (HESA) data is used to improve the estimation of the migration of students within England and Wales at the start and end of their studies.</p> <p>Further information on the revisions is available at: http://www.ons.gov.uk/ons/guide-method/method-quality/imps/updates-and-reports/current-updates-and-reports/index.html</p>

Accessing the data	<p>Further links are available on the Population and Migration Theme Page: http://wales.gov.uk/topics/statistics/theme/population</p> <p>Internal migration data is available on StatsWales: https://statswales.wales.gov.uk/Catalogue/Population-and-Migration/Migration/Internal</p>
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International migration

Definition and Source	The ONS publish estimates of international migration based on the UN definition of an international migrant. An international migrant is defined as someone who intends to change his/her country of usual residence for a period of at least a year. Therefore, this will not include seasonal workers or students moving to another country for less than 12 months.
Use for data	International migration estimates form an important component of mid-year estimates of population. Migration estimates are used to analyse the movements of people to and from Wales in order to plan and monitor services.
Methodology	Total International Migration (TIM) is estimated by combining data from the International Passenger Survey (IPS), Home Office data on asylum seekers and their dependents, and visitor switchers with estimates of migration between the Republic of Ireland and Wales from the Irish Labour Force Survey. The IPS is an ONS sample survey of passengers arriving at and departing from the main UK air and sea ports and the Channel tunnel.
Frequency	ONS publish quarterly provisional IPS estimates showing rolling annual data. Due to the more timely nature of these provisional estimates, ONS only publish data for inflows and outflows, by citizenship and reason for migration. Provisional estimates of Long-Term International Migration (LTIM) (formerly known as Total International Migration (TIM)) are published twice yearly. Final end year data for Long-Term International Migration estimates are published in November, along with the final end year data for International Passenger Survey (IPS) data, as well as the now regular provisional data.
Availability	See above.
Revisions and limitations	<p>Prior to 1992, international migration estimates were only available using data from the IPS alone. The IPS is based on a small number of contacts and so the figures can only be seen as broad estimates and also they are not suitable to examine changes over time in any detail.</p> <p>ONS in partnership with other organisations had a long-term programme of work on improving migration and population statistics (IMPS), and consequently migration estimates from 2002-2008 were revised on May 13th 2010.</p> <p>The methodological improvements included improved estimation of the</p>

	distribution of international migrants between local authority areas in England and Wales. The improved estimation of the distribution of international migrants between LAs is based on more up to date data sources that replace the use of 2001 Census data for this purpose.
Accessing the data	Further information and data is available on the ONS website: http://www.statistics.gov.uk/hub/population/migration/international-migration/index.html

National Population Projections

Definition and Source	The Office for National Statistics produces population projections for each of the four UK countries. Population projections provide estimates of the size of the future population, and are based on assumptions about births, deaths and migration. The assumptions are based on past trends. The projections only indicate what may happen should the recent trends continue. Projections done in this way do not make allowances for the effects of local or central government policies on future population levels, distribution and change.
Use for data	Population projections are used for service planning and to estimate future need. Population projections can identify trends that shape the context for future policy development.
Methodology	Population projections are based on principle assumptions about fertility, mortality and migration. Variant projections are also produced and are based on different combinations of high and low alternative assumptions of fertility, mortality and migration. More information on the methodology used can be obtained from the ONS website: http://www.ons.gov.uk/ons/guide-method/method-quality/specific/population-and-migration/population-projections/index.html
Frequency	National population projections are usually published every two years (although an interim set of projections was produced for 2003). National projections are usually published in the Autumn. The most recent set of National Projections are 2008-based which were published in October 2009.
Availability	National projections for Wales are published by single year of age and gender for each of the first 25 years, and for selected years thereafter. Information on the fertility, mortality and migration assumptions is also published.
Revisions and limitations	Population projections project forward trends arising from the assumptions made, and only indicate what would happen if the assumptions were to be realised and no other factors arose to affect the resulting trends. The projections are computed for each of the component countries of the UK and the results are added together to produce projections for England & Wales, Great Britain and the UK. As the process of demographic change is cumulative, projections become increasingly uncertain the further they are carried forward. The 2008-based projections are based on indicative population data for mid-2008, which was slightly different to the final revised population for mid-2008 which was published in May 2010.
Accessing the data	A bulletin is available on the Population and Migration Theme Page: http://wales.gov.uk/topics/statistics/theme/population

	<p>Data by single year of age and gender up to mid-2033 are available on StatsWales: https://statswales.wales.gov.uk/Catalogue/Population-and-Migration/Population/Projections/National</p>
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Local Authority Population Projections

<p>Definition and Source</p>	<p>Local authority population projections for Wales are published by the Welsh Government. They were published for the first time (2006-based) in June 2008, and 2008-based LA projections were published in May 2010. Population projections provide estimates of the size of the future population, and are based on assumptions about births, deaths and migration. The assumptions are based on past trends. The local authority projections only indicate what may happen should the recent trends continue. Projections done in this way do not make allowances for the effects of local or central government policies on future population levels, distribution and change.</p>
<p>Use for data</p>	<p>There is a high level of interest in population and migration data for Wales, and so a strong demand for projections at the local authority level. Those who plan for the future, to deliver services and to help frame sustainable policies, need to consider the population by age and sex. Population projections can be used for planning services and to estimate future need (for example - number of teachers/schools, social services provision). Population projections can identify trends that shape the context for future policy development. There are similar demands for local authority household projections for planning purposes. Local authority population projections are the basis for producing household projections. These are used for housing planning purposes e.g. in Local Authority Development Plans.</p>
<p>Methodology</p>	<p>A new approach was used to develop the 2006-based local authority projections, and the same process has been used for the 2008-based projections. This approach means using local data and local trends, but not constraining the local authority projections to the national Wales level population projection, i.e. LA projections cannot be added up to give a Wales projection.</p> <p>The projections have been developed in close collaboration with local authorities and key users in Wales - through the Wales sub-national population working group (WASPP). The WASPP group was originally formed as a subgroup of the Welsh Statistical Liaison Committee. The WASPP group has met on a regular basis over the past four years, and has been a forum for technical discussion on the methodology, the base data, and the launch of the population projections. Members of WASPP include local authority representatives with knowledge of and/or experience of demographic data and population projections.</p> <p>Here is a link to the technical report for the 2008-based projections which provides detail of the methodology used: http://wales.gov.uk/topics/statistics/publications/2008populationtechnical/?lang=en</p>

Frequency	Local authority population projections were published for the first time (2006-based) in June 2008, and 2008-based LA projections were published in May 2010.
Availability	Local authority projections for Wales are published by single year of age and gender over a 25 year projection period, for each local authority in Wales. In order to illustrate the uncertainty associated with population projections, variant projections have also been published alongside the main (or principal) population projection. These include a no migration (natural change only) projection to illustrate the projected population of each local authority if there were no future inward or outward migration. Higher and lower variant projections have also been published. The base data used in the projections has been made available to local authority representatives in order for them to create their own assumptions and variants.
Revisions and limitations	<p>Population projections have limitations. These local authority population projections only indicate what may happen should the trend-based assumptions become true. They are not policy-based forecasts of what may happen and they do not make allowances for the effects of local or central government policies on future population levels, distribution and change.</p> <p>As the process of demographic change is cumulative, projections become increasingly uncertain the further they are carried forward. Demographic change affects some populations more rapidly and more seriously than others. Due to the size of migration flows, for some local authorities, migration assumptions are more critical than fertility and mortality assumptions. Therefore, migration assumptions can have a significant effect on certain areas in the long-term.</p> <p>The 2008-based LA projections are based on the revised population and migration data that was published by ONS in May 2010 as part of their project to improve population and migration estimates.</p>
Accessing the data	<p>A Summary Report, Local Authority Report and Technical Report are available on the Population and Migration Theme Page. These provide more information about the methodology used to form the projections and provide an analysis of the results: http://wales.gov.uk/topics/statistics/theme/population</p> <p>Data by single year of age and gender for each LA up to mid-2033 are available on StatsWales: https://statswales.wales.gov.uk/Catalogue/Population-and-Migration</p>

National Park Population Projections

Definition and Source	National Park population projections for Wales are published by the Welsh Government. They were published for the first time (2006-based) in March 2010. Population projections provide estimates of the size of the future population, and are based on assumptions about births, deaths and migration. The assumptions are based on past trends. The projections only indicate what may happen should the recent trends continue. Projections done in this way do not make allowances for the effects of local or central government policies on future population levels, distribution and change.
Use for data	Population projections can be used for planning services and to estimate future need. Population projections can identify trends that shape the context for future policy development. There are similar demands for National Park household projections for planning purposes. National Park population projections are the basis for producing National Park household projections.
Methodology	The National Park projections are based on a very similar methodology to that used to produce the local authority population projections for Wales. This approach means using local data and local trends to form assumptions on births, deaths and migration.
Frequency	National Park population projections were published for the first time (2006-based) in March 2010, and 2008-based National Park projections were published in April 2011.
Availability	National Park projections for Wales are published by single year of age and gender over a 25 year projection period, for each National Park in Wales.
Revisions and limitations	Population projections have limitations. These population projections only indicate what may happen should the trend-based assumptions become true. They are not policy-based forecasts of what may happen and they do not make allowances for the effects of local or central government policies on future population levels, distribution and change. As the process of demographic change is cumulative, projections become increasingly uncertain the further they are carried forward.
Accessing the data	A bulletin is available on the Population and Migration Theme Page. This provides more information about the methodology used to form the projections and provides an analysis of the results: http://wales.gov.uk/topics/statistics/theme/population Data by single year of age and gender for each National Park up to mid-2031 are available on StatsWales: https://statswales.wales.gov.uk/Catalogue/Population-and-Migration

Further Sources:

Short-term migration estimates

Estimates of short-term migration for England and Wales (visits made for longer than one month but less than a year) were first published in October 2007 by ONS. They are being developed as part of the Migration Statistics Improvement Programme. These are experimental statistics. The most recent data are for mid-2008. The data are based on the International Passenger Survey.

A range of estimates are produced including:

- Different definitions of short-term migration in terms of both length of stay and reason for visit;
- Flows and stocks;
- Moves made to England and Wales by overseas residents as well as moves made by England and Wales residents overseas.

Census of population

A census is a count of the population, and is held every ten years in the UK. The first modern census was taken in 1801 and there has been one every ten years since, apart from 1941.

Information arising from each census of population is used by central and local government to inform policy, to plan services for specific groups of people, and to distribute resources effectively.

Only a census can provide information uniformly both for Wales as a whole and information about individual small areas and sub-groups of the population in relation to one another. The census is the only source of detailed information on small populations such as minority ethnic communities within areas smaller than local authorities.

Census data is used as the basis for mid-year estimates. For example, current mid-year estimates of population are based on rolled forward estimates from the 2001 Census.

The next census was held on March 27th 2011, and outputs have started to be made available from the second half of 2012 onwards.

For further information on the 2011 Census please visit our Population and Census theme pages.

For further information on the 2011 Census please visit:

www.ons.gov.uk/ons/guide-method/census/2011/index.html

Electoral Roll data

Electoral Roll data provides counts of the number of people registered to vote on electoral registers for both Parliamentary and Local Government elections. The most recent data is for October 2012.

Electoral Roll data for National Assembly for Wales elections is available on StatsWales:

<https://statswales.wales.gov.uk/Catalogue/Population-and-Migration/Electoral-Register>

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