

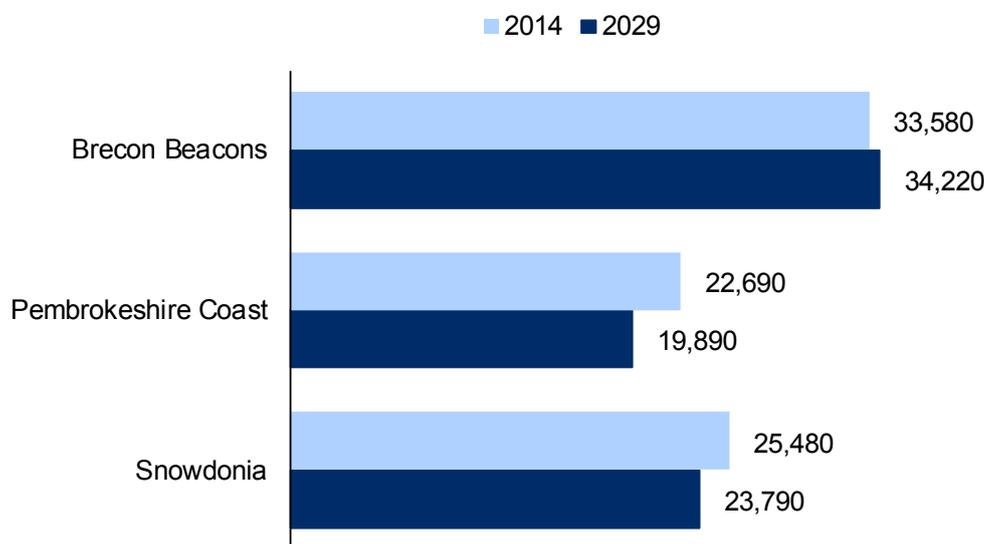


Population projections for national parks in Wales, 2014-based

26 July 2017
SFR 80/2017

It is estimated that the population of Brecon Beacons will increase by 1.9 per cent between 2014 and 2029 whilst the population of Pembrokeshire Coast and Snowdonia will decrease. The population of Pembrokeshire Coast is projected to fall the most (12.3 per cent), followed by the population of Snowdonia (6.6 per cent).

Chart 1: Population by National Park in 2014 and Projected Population in 2029



Source: National park population projections, Welsh Government

The projections are based on a similar methodology to the one used for the 2013-based national parks population projections for Wales (details of which are given in the Quality Information section at the end of the report).

About this release

This release presents the results of the 2014-based national park population projections for Wales for the 15-year period from 2014 to 2029.

They are based on the mid-year population estimates for 2014 published by the Office for National Statistics (ONS).

Population projections provide estimates of the size of the future population and are based on assumptions about births, deaths, and migration. The assumptions are generally based on trends in recent years.

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Introduction

Population projections provide estimates of the size of the future population and are based on assumptions about births, deaths, and migration. The assumptions are generally based on trends in recent years. Population projections are not forecasts and do not attempt to predict the impact that future government policies, changing economic circumstances or other factors (for example, government policies on immigration or the implications of the EU referendum result), might have on demographic behaviour.

These 2014-based projections are trend-based projections for the 25-year period from 2014 to 2039. They are based on [mid-year population estimates for 2014](#) published by the Office for National Statistics (ONS) in June 2015. As they are trend-based they become less certain the further they are carried forward.

These projections form part of the evidence base needed to produce a Local Development Plan for a national park and should form the starting point; however, because the projections are trend-based, local planning authorities may wish to produce their own policy-based projections, in which case they should justify the approach they have chosen to take. Local planning authorities should also use any other information available to inform the evidence base such as local housing market assessments. These projections are for the national parks in Wales and are not designed to give Wales-level projections. These are produced by the Office for National Statistics. More information on this is given in the comparisons section of the release.

The quality information section at the end of this release provides further information on the methodology used to produce these projections. This release provides results for the first 15 years of the projection period (mid-2014 to mid-2029). Results for the full 25-year projection period can be found online on the [StatsWales website](#). Projections become more uncertain the further they are carried forward, and the 15-year period used for the main part of the release is judged to be a reasonable compromise between the scope of the projections and their reliability.

Outputs

This release covers the projections for each national park in Wales. They are based on data on births, deaths, and migration for the 5-year period leading up to mid-2014. These projections are therefore considered to best reflect recent demographic patterns at the time they were produced.

This release has been published on the Welsh Government website and a set of tables has been published on the [StatsWales website](#). Guidance on the detailed methodology used to produce the 2013 national park population projections for Wales was published in a [technical report](#).

It describes how the national park population projections were produced, and describes in detail the methodology used to derive assumptions on fertility, mortality, and migration. This report will be updated in the coming months to reflect the 2014 projections.

A [quality report](#) for these statistics (and the other projections) is also available.

Key points

Projected population change

- While the population of Brecon Beacons national park is projected to increase between 2014 and 2029, the populations for the Pembrokeshire Coast and Snowdonia are projected to decrease.
- The total population living in a national park in Wales (81,800 in 2014) is estimated to decrease by 4.7 per cent to 77,900 in 2029.
- The Brecon Beacons population (33,600 in 2014) is estimated to increase by 1.9 per cent.
- The Pembrokeshire Coast population (22,800 in 2014) is estimated to decrease by 12.3 per cent.
- The Snowdonia population (25,500 in 2014) is estimated to decrease by 6.6 per cent.

Assumed migration

Migration assumptions are based on the 5-year period up to mid-2014.

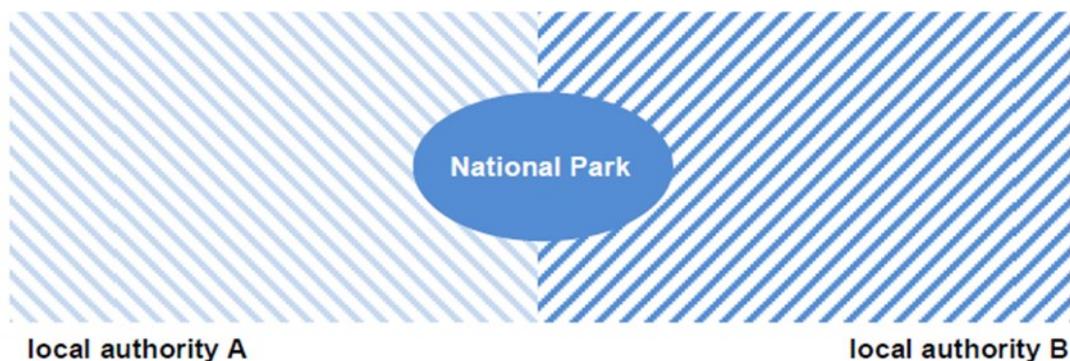
- More people are expected to move to the Brecon Beacons than leave the area; for the Pembrokeshire Coast and Snowdonia more people are expected to leave the area than move in.
- Net migration within national parks is estimated to vary between -50 and +150 per year.

Projected births and deaths

- The number of deaths in each of the three national parks in Wales will be more than the number of births (that is, negative natural change).

Residual areas

Several local authorities lie partly inside a national park and partly outside. The area that lies outside is known as a residual area¹.



Between 2014 and 2029:

- With the exception of Powys, all residual areas are projected to show population rises of between 0.3 and 8.8 per cent.
- The Powys residual area is projected to show a population fall of 3.7 per cent.

¹ See page 8 for further information on [residual areas](#)

Changes to methodology

For the 2014 projections, the same methodology as the 2013 based projection was followed; however there have been two changes which were approved by the Wales Sub-national Projections working group (WASP). For more information on this group and the methodology used to produce these projections please see the [technical report](#).

Prisoner population

Whilst producing these projections a step change was noted in the prisoner data supplied by the Office for National Statistics (ONS). Up to and including the mid-2011 population estimates the prison population was based on those who had served 6 months or more. Following the 2011 Census, the definition changed to those who had been sentenced to 6 months or more in prison; therefore accounting for the increase in numbers. Therefore, using a five-year trend (2010 to 2014) would include 2010 and 2011 on the old basis and 2012 to 2014 on the new and give a lower average. Therefore a three-year average was used. This affects only the residual area of Monmouthshire.

National Population Projection differentials

The [National Population Projections \(NPP\)](#) produced by the ONS are used in the Sub-National Population Projections (SNPP). They are used to determine the future trend of births and deaths (differentials) which are applied to the local authority and therefore, national park areas. In the NPPs the ONS use projected fertility and mortality rates to calculate the projected number of births and deaths. The fertility and mortality rates in the first year of the projections are adjusted to ensure the resulting number of births and deaths are equal to the provisional estimates available. The rates for all subsequent years remain unchanged.

Background

An Act of Parliament was passed in 1949 to establish national parks with the aim of preserving their natural beauty, protecting wildlife, and providing recreational opportunities for the public. There are 15 national parks in Britain: 3 in Wales, 10 in England, and 2 in Scotland.

Map 1: National Parks in Wales



In Wales each national park has its own National Park Authority which is also the statutory Planning Authority for the park area.

The three national parks in Wales are:

- the Brecon Beacons (with an area of 1,344 square kilometres),
- the Pembrokeshire Coast (with an area of 621 square kilometres),
- Snowdonia (with an area of 2,176 square kilometres).

They cover 19.9 per cent of the area of Wales; compared with 9.3 per cent for the national parks in England and 7.2 per cent for those in Scotland. The three national parks in Wales are shown in Map 1.

The population density of Wales is 149 people per square kilometre. The population densities of the national parks in Wales are:

- 25 people per square kilometre for the Brecon Beacons,
- 37 people per square kilometre for the Pembrokeshire Coast,
- 12 people per square kilometre for Snowdonia.

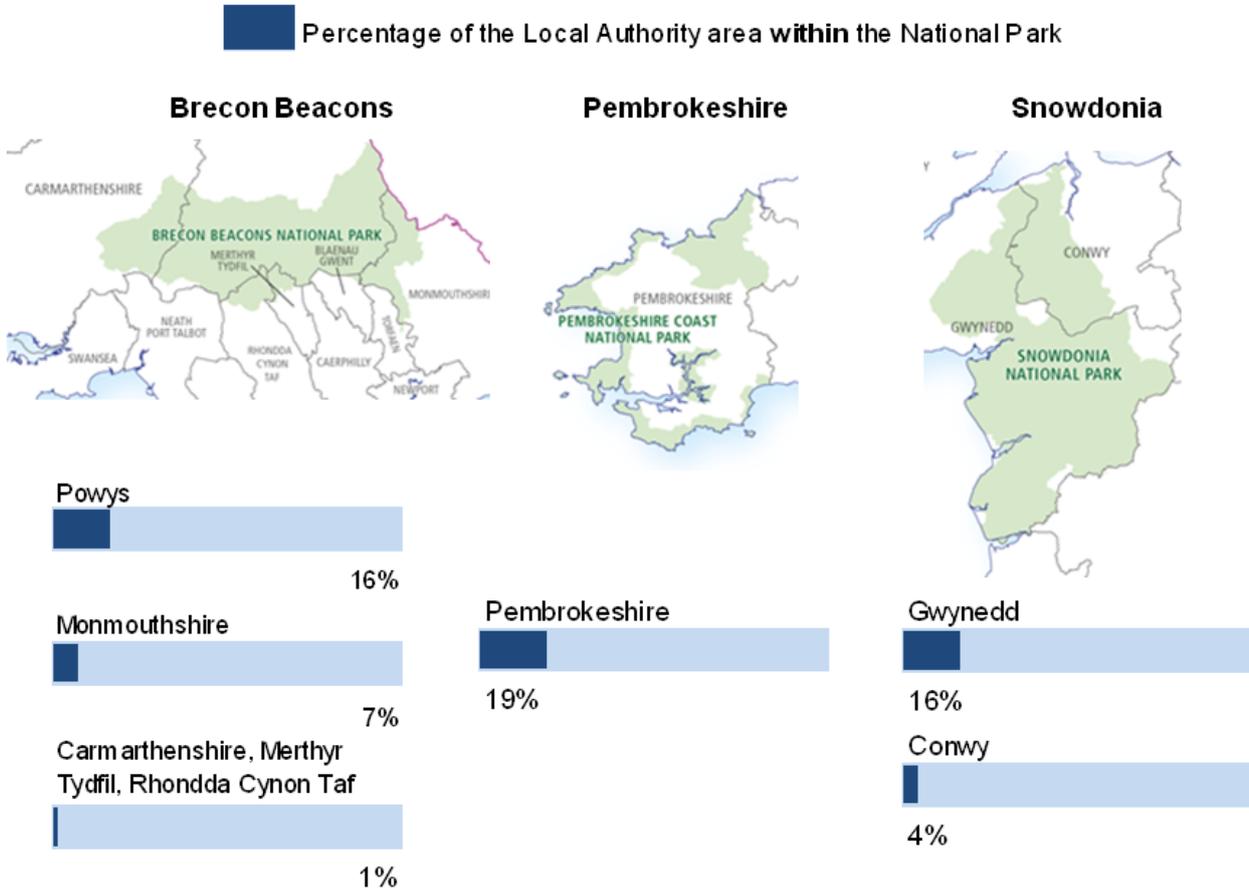
Although the national parks in Wales are sparsely populated they do contain small towns and villages as well as more isolated farms. Therefore national parks in Wales have;

- **20%** of the **area**
- but only **2.6%** of the **population**.

Residual areas

Several local authorities lie partly inside a national park and partly outside. The area that lies outside the national park is known as a 'residual area'.

The following diagram shows the proportion of the area of local authorities that fall within a national park and the remaining proportion of the local authority outside the national park (residual area);



Source: national park population projections, Welsh Government

To be strictly accurate very small parts of the national parks lie in other local authorities but these areas are so small that they can be ignored for this release.

The population estimates for the residual areas are built up from small area estimates and from making assumptions about how the population is distributed amongst areas not within national parks, so although they are a useful indication of population size and population change they should not be thought of as precise figures.

Residual areas outside Brecon Beacons

Powys

Between 2014 and 2029 the **residual** population of Powys is projected to fall by around 3,900 (or 3.7 per cent). This is the largest projected fall in Wales. There are projected to be reductions in all age groups apart from those aged 65 or over (which are projected to increase by 8,400). Net migration will account for an increase of 700 in the population between 2014 and 2029; however this is more than offset by a reduction in population due to natural change of 4,700.

Carmarthenshire

Between 2014 and 2029 the **residual** population of Carmarthenshire is projected to increase by around 3,300 (or 1.8 per cent). There are projected to be reductions in all age groups apart from those of aged 65 or over (which are projected to increase by 12,300). Net migration will account for an increase of 7,200 in the population between 2014 and 2029; this is partly offset by a reduction in population due to natural change of 3,900.

Rhondda Cynon Taf

Between 2014 and 2029 the **residual** population of Rhondda Cynon Taf is projected to increase by 7,000 (or 2.9 per cent). There are projected to be increases in those aged 5-15 and those of aged 65 or over. Net migration will account for an increase of 1,200 in the population between 2014 and 2029 and natural change accounting for a further 5,800 increase.

Merthyr Tydfil

Between 2014 and 2029 the **residual** population of Merthyr Tydfil is projected to fall very slightly by 170 (or 0.3 per cent). There are projected to be increases in those aged 11-15 and those aged 65 or over which is offset by the other age groups. Net migration will account for a decrease of 800 in the population between 2014 and 2029; this is offset slightly by an increase in population due to natural change of 900.

Monmouthshire

Between 2014 and 2029 the **residual** population of Monmouthshire is projected to increase by 1100 (or 1.2 per cent). There are projected to be reductions in all age groups apart from those of aged 65 or over (which are projected to increase by 8,500). Net migration will account for an increase of 4,000 in the population between 2014 and 2029 this is offset by a decrease in population due to natural change of 2,900.

Residual areas outside Pembrokeshire Coast

Pembrokeshire

Between 2014 and 2029 the **residual** population of Pembrokeshire is projected to increase by around 3,600 (or 3.4 per cent). There are projected to be an increase in those aged 65 or over (7,800). Net migration will account for an increase of 4,600 in the population between 2014 and 2029 offset by a reduction in population due to natural change of 1,000.

Residual areas outside Snowdonia

Gwynedd

Between 2014 and 2029 the **residual** population of Gwynedd is projected to grow by just over 8,700 (or 7.9 per cent). About 57 per cent of that increase is in the population aged 65 or over with the population projected to increase by 5,100. About 70 per cent of the projected increase is due to net migration (6,000), with natural change up 2,700.

Conwy

Between 2014 and 2029 the **residual** population of Conwy is projected to increase by almost 1,500 (or 1.3 per cent). Whilst the younger age groups are projected to fall, the number of people aged 75 or over is projected to increase by around 7,500. Net migration will account for an increase of 7,000 in the population between 2014 and 2029 with natural change down 5,500.

National Park population projections

Natural change

Between 2014 and 2029 the number of deaths in each of the three national parks in Wales is estimated to be more than the number of births (that is, negative natural change). The fall in the number of births is potentially caused by the decreasing numbers in the cohorts of young women.

Migration

A constant level of in- and out-migration (that is, the number of people moving to, or leaving an area) has been assumed for each national park. It is based on the levels of in- and out-migration over the five years from 2009 to 2014.

More people are expected to move to the Brecon Beacons than leave the area, an estimated 150 people a year. In Pembrokeshire Coast 50 more people are expected to leave the area than to move in and in Snowdonia 60 more are expected to leave than move in.

Population

The total population living in a national park in Wales (81,750 in 2014) is estimated to decrease between 2014 and 2029 by 4.7 per cent to 77,900. However, different age groups illustrate varying trends.

Chart 3: Population projections for National parks between 2014-2029, by age



Source: national park population projections, Welsh Government

Between 2014 and 2029 the number of people aged **under 16** in the Brecon Beacons is projected to increase (although the increase is small) whereas in Pembrokeshire Coast and Snowdonia the population of those aged under 16 is projected to decrease. This is potentially caused by the decreasing size of the younger age cohorts as a result of relatively low birth rates after the year 2000.

The numbers of people aged **between 16 and 64** in the three national parks in Wales are projected to decrease by 16% (2,560) between 2014 and 2029. This is the age group most likely to be affected by migration; that is, people aged between 16 and 64 are more likely to leave a national park area than to move into one (employment being a major factor).

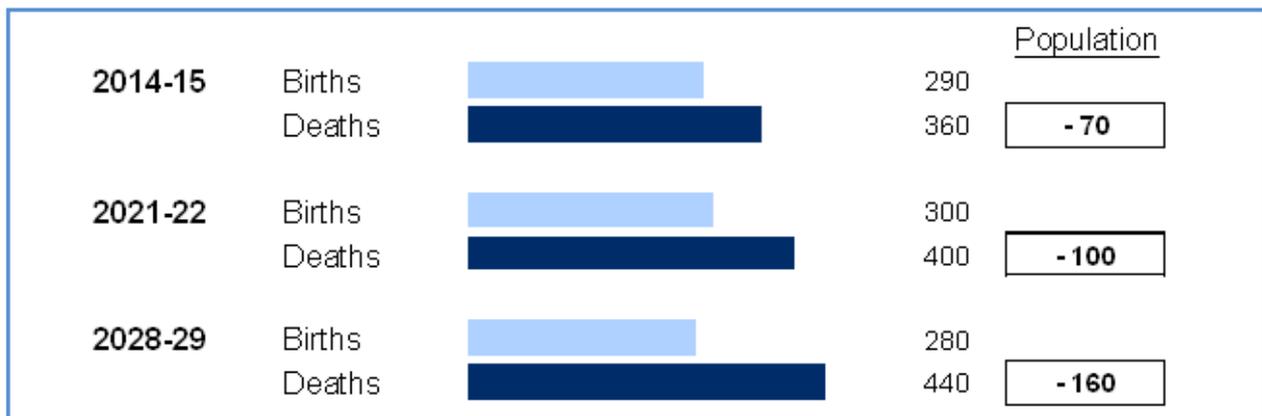
The numbers of people **aged 65 and over** in the three national parks in Wales are projected to increase by 24% (3,140) between 2014 and 2029. People in this age group are less likely to leave the area and the effect of the increase in births between the late 1940s and the early 1960s is starting to decrease.

Brecon Beacons

The Brecon Beacons national park has a population of 33,600 (2014 mid-year estimate) giving a population density of 25 people per square kilometre.

The population is projected to increase by 1.9 per cent between 2014 and 2029 with a projected population of 34,200. The number of people under the age of 65 is projected to decrease over the same period, whereas the number of people aged 65 or over is projected to increase.

Natural change is projected to be negative over the projection period; that is, more deaths than births. Births are projected to decrease steadily (due in part to smaller cohorts of female adults aged in their 20s and 30s) and deaths to increase steadily. This has resulted in the difference between births and deaths being projected to increase steadily over the projection period.

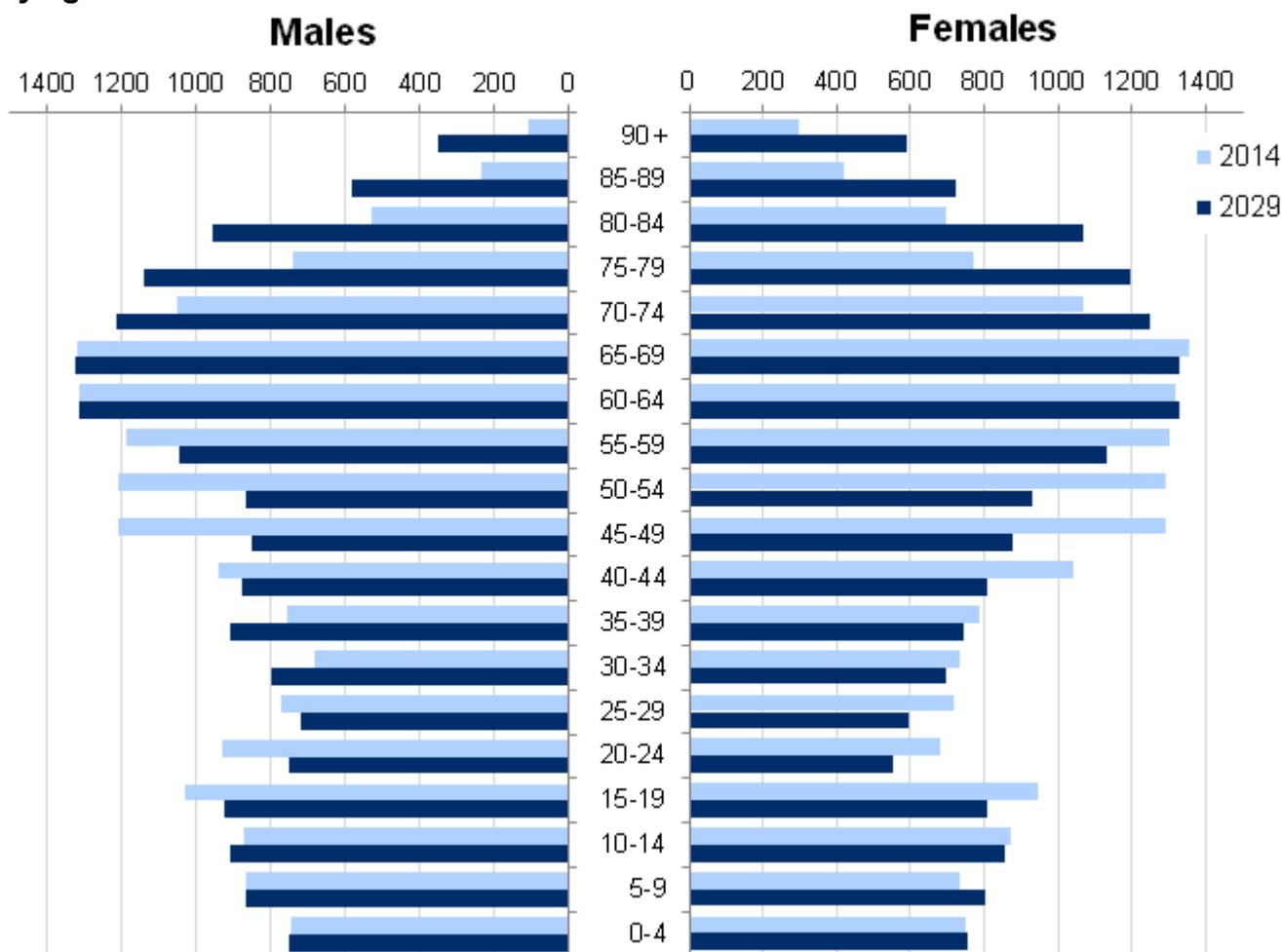


Source: national park population projections, Welsh Government

It is estimated that around 150 more people a year will move in to the Brecon Beacons than will leave, based on the levels of in-migration and out-migration over the five years from 2009 to 2014.

The following population pyramid shows the age distributions for males and females in Brecon Beacons national park in 2014 and the projected distribution in 2029.

Chart 4: Population Projections for Brecon Beacons between 2014-2029, by age and sex



Source: national park population projections, Welsh Government

The Brecon Beacons (along with the other two national parks) is projected to see an increase in the numbers of older people between 2014 and 2029. The increase is greater for males than for females, probably caused by the increasing male life expectancy. This is consistent with the patterns seen generally across Wales, with projected increases in older age groups.

Brecon Beacons is projected to see a decrease in the numbers of young people between 2014 and for the 2029, consistent with the other two national parks in Wales. This is potentially caused by the decreasing size of the younger age cohorts as a result of relatively low birth rates after the year 2000. The pattern is similar for males and females but with slightly greater decreases for females.

All adults (male and female);

The number of people under 16 in the Brecon Beacons was 5,200 in 2014 and is projected to increase slightly by 1.5 per cent to 5,300 in 2029. Of the residual areas situated around the Brecon Beacons the numbers of under-16s is projected to;

- Decrease in Carmarthenshire, Merthyr Tydfil, Monmouthshire and Powys
- And increase in Rhondda Cynon Taff

The number of people aged between 16 and 64 in the Brecon Beacons was 19,700 in 2014 and is projected to decrease by 12.9 per cent to 17,200 in 2029. There are projected falls in the numbers of 16-64s in the residual areas situated around the Brecon Beacons, ranging from 2.8 per cent in Rhondda Cynon Taff to 16.6 per cent in Powys.

The number of people aged 65 and over in the Brecon Beacons was 8,600 in 2014 and is projected to increase by 36.5 per cent to 11,700 in 2029. There are projected rises in the numbers of over-65s in the residual areas situated around the Brecon Beacons, ranging from 22.7 per cent in Rhondda Cynon Taff to 40.6 per cent in Monmouthshire.

Pembrokeshire Coast

Pembrokeshire Coast national park has a population of 22,700 (2014 mid-year estimate) giving a population density of 37 people per square kilometre.

The population is projected to fall by 12.3 per cent by 2029 with a projected population of 19,900. The number of people under the age of 65 is projected to decrease between 2014 and 2029. Over the same period the number of people aged 65 or over is projected to increase.

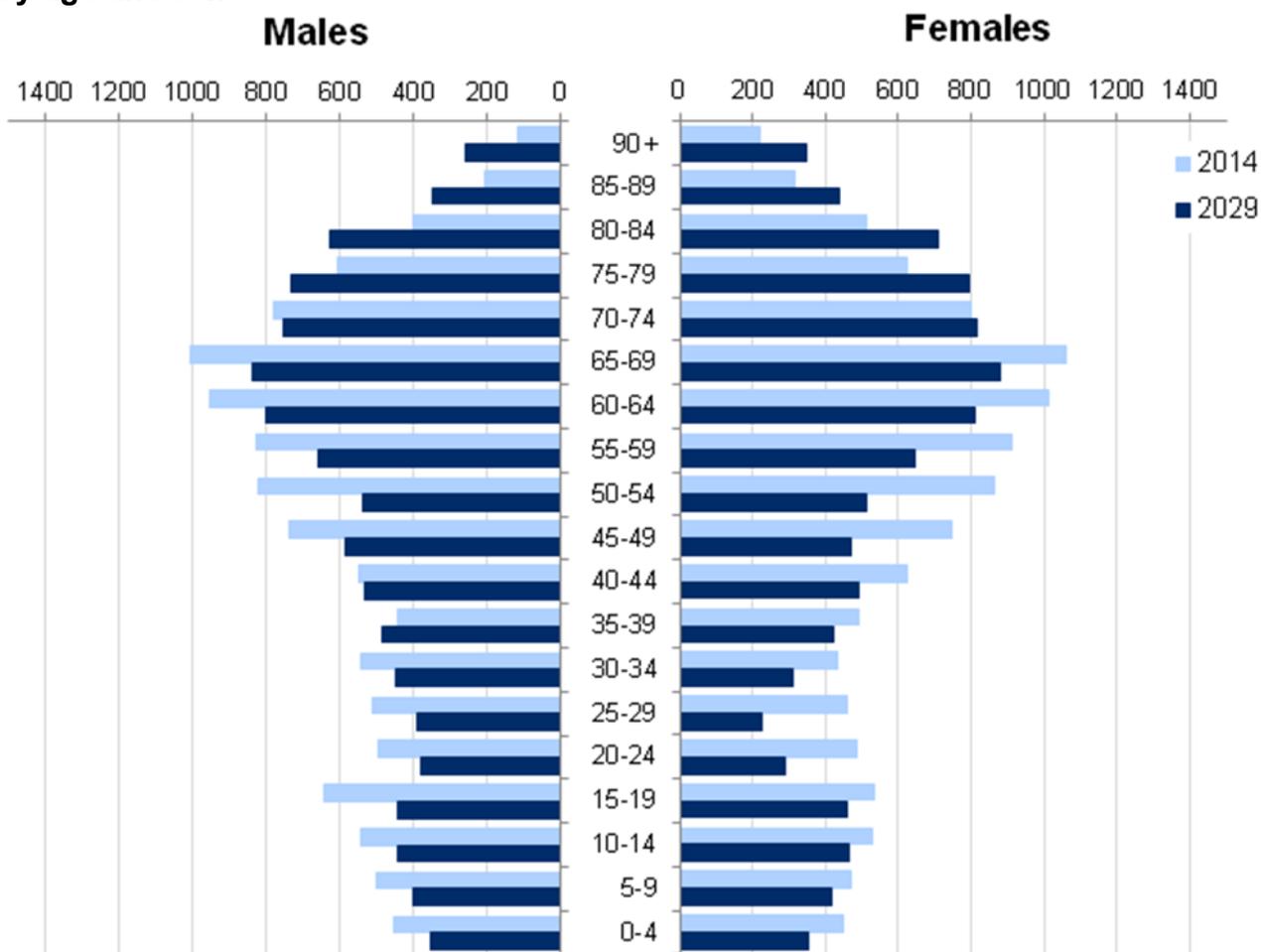
Natural change is projected to be negative over the projection period; that is, more deaths than births. Births are projected to decrease steadily (due in part to smaller cohorts of female adults aged in their 20s and 30s) and deaths to stay fairly constant. This has resulted in the difference between births and deaths being projected to increase steadily over the projection period.



Source: national park population projections, Welsh Government

It is estimated that around 50 fewer people a year will move in to the Pembrokeshire Coast than will leave, based on the levels migration over the five years from 2009 to 2014. The following population pyramid shows the age distributions for males and females in Pembrokeshire Coast national park in 2014 and the projected distribution in 2029.

Chart 5: Population Projections for Pembrokeshire Coast between 2014-2029, by age and sex



Source: national park population projections, Welsh Government

The population of 35 to 64 year olds in Pembrokeshire Coast is projected to decrease by 2029.

This decrease is markedly higher among females (decrease of 1300) than males (decrease of 730).

The Pembrokeshire Coast (along with the other two national parks) is projected to see an increase in the numbers of older people (aged 65+) between 2014 and 2029. The increase in the older age groups is projected to consistent among males and females. Projected decreases in the younger age groups were also seen to be similar among both males and females. The decrease in younger people is potentially caused by the decreasing size of the younger age cohorts as a result of relatively low birth rates after the year 2000.

All adults (male and female);

The number of people under 16 in the Pembrokeshire Coast national park was 3,200 in 2014 and is projected to decrease by 18.9 per cent to 2,600 in 2029. The number of under-16s in the Pembrokeshire residual area is projected to fluctuate but with an overall decrease in population of 2.6 per cent between 2015 and 2029.

The number of people aged between 16 and 64 in the Pembrokeshire Coast national park was 12,800 in 2014 and is projected to decrease by 24.2 per cent to 9,700 in 2029. The number of

16-64s in the Pembrokeshire residual area is projected to fall steadily between 2014 and 2029 with an overall decrease of 5.6 per cent.

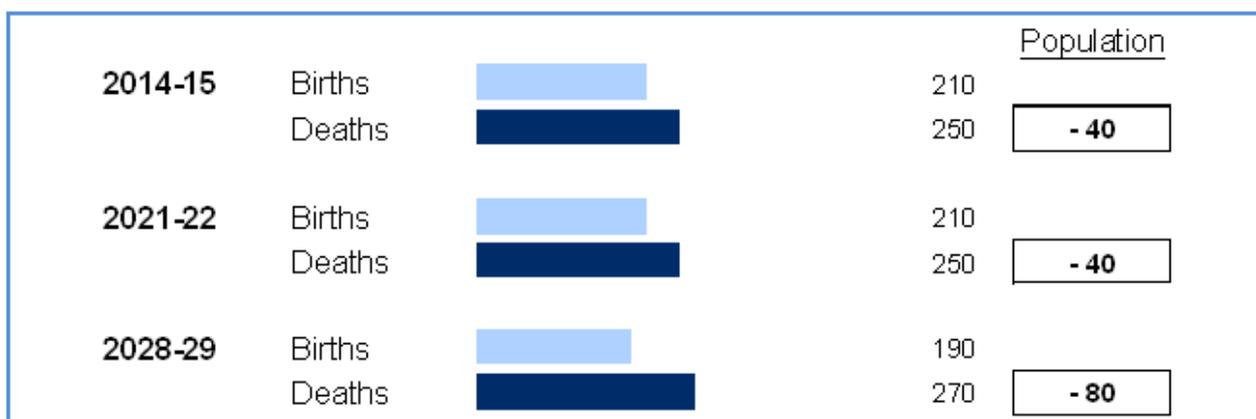
The number of people aged 65 and over in the Pembrokeshire Coast national park was 6,700 in 2013 and is projected to increase by 13.5 per cent to 7,600 in 2028. The number of over-65s in the Pembrokeshire residual area is projected to rise by a third (32.3 per cent) between 2014 and 2029.

Snowdonia

Snowdonia has a population of 25,500 (2014 mid-year estimate) giving a population density of 12 people per square kilometre.

The number of people under the age of 16 and the number of adults aged 16 to 64 is projected to steadily decrease between 2014 and 2029. In contrast, the number aged 65 or over is projected to increase. The population is projected to fall by 6.6 per cent by 2029 with a projected population of 23,800.

Natural change is projected to be negative over the projection period; that is, more deaths than births. Births are projected to stay constant for most of the period and then to decrease (due in part to smaller cohorts of female adults aged in their 20s and 30s). Similarly deaths are projected to stay constant for most of the period but then it is estimated that they will increase slightly. This has resulted in the difference between births and deaths being projected to increase steadily over the projection period.

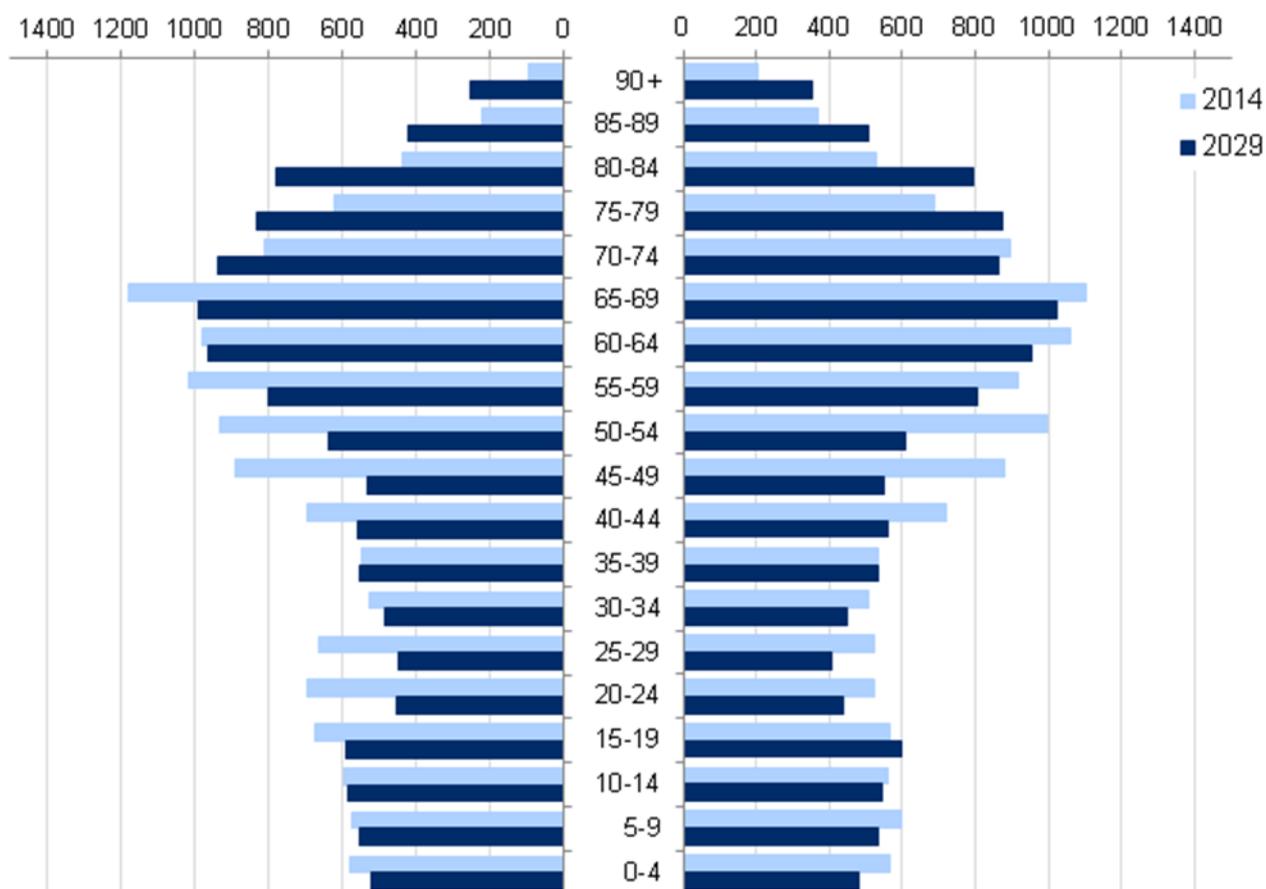


Source: national park population projections, Welsh Government

It is estimated that around 60 fewer people a year will move in to Snowdonia than will leave, based on the levels of in-migration and out-migration over the five years from 2009 to 2014.

The following population pyramid shows the age distributions for males and females in Snowdonia national park in 2014 and the projected distribution in 2029.

Chart 6: Population Projections for Snowdonia between 2014-2029, by age and sex



Source: national park population projections, Welsh Government

Snowdonia (along with the other two national parks) is projected to see an increase in the numbers of older people (aged 65+) between 2014 and 2029. The increase is greater for males (increase of 850) than for females (increase of 640), probably caused by the increasing male life expectancy. This is consistent with the patterns seen generally across Wales, with projected increases in older age groups.

Snowdonia is projected to see a decrease in the numbers of young people between 2014 and for the 2029, consistent with the other two national parks in Wales. This is potentially caused by the decreasing size of the younger age cohorts as a result of relatively low birth rates after the year 2000. The pattern is similar for males and females but with slightly greater decreases for females.

All adults (male and female)

The number of people under 16 in Snowdonia is projected to decrease by 6.5 per cent from 3,700 in 2014 to 3,460 in 2029. Of the residual areas situated around the Snowdonia the number of under-16s in 2029 is projected to;

- Steadily increase in Gwynedd by 6.6 per cent and
- Fluctuate in Conwy with an overall fall of 2.7 per cent.

The number of people aged between 16 and 64 in Snowdonia was 14,600 in 2014 and is projected to decrease by 20.1 per cent to 11,700 in 2029. Of the local authorities which contain parts of

Snowdonia the number of 16-64s in the Gwynedd residual area is projected to **rise** steadily by 4.8 per cent between 2014 and 2029. Over the same period the number in the Conwy residual area is projected to fall by 7.8 per cent.

The number of people aged 65 and over in Snowdonia is projected to increase by a fifth from 7,200 in 2014 to 8,600 in 2029. Of the local authorities which contain parts of Snowdonia the number of over-65s in the Gwynedd residual area is projected to rise by 22.2 per cent between 2014 and 2029. Over the same period the number in the Conwy residual area is projected rise by 23.5 per cent.

Key quality information

Background

Population projections provide estimates of the size of the future population, and are based on assumptions about births, deaths, and migration. The assumptions are generally based on trends in recent years. They are not forecasts and do not try to predict the potential effects of local or central government policies on future population changes, or of changes in the lifestyle of the population.

The components of population change on which projections are based can be affected by changes in the economy and in the lifestyle of the population. Therefore those interested in national park population projections are advised to use these published projections as a starting point, and are encouraged to produce their own variant projections and scenarios if required. The PopGroup software (there is a brief description in the *software* section) used to produce the projections is available to local authorities in Wales and (as in previous projection rounds) permission will be sought from ONS to share the base data used so that local authorities can use the data to create their own variants if they want to.

Relevance

Population and migration statistics are important for policy development, planning, and the provision of public services. There is a high demand for population and migration statistics for a range of uses. These include:

- planning services and estimating future need at national and local level, (for example, schools, health, and social services) including the preparation of Local Development Plans;
- contributing to the Local Government Finance revenue settlement;
- policy development;
- advice to Ministers;
- informing debate in the National Assembly for Wales and beyond;
- the calculation of further statistics (for example, Housing Estimates, and Household Projections);
- denominators in rates (for example, birth rates and mortality rates);
- the production of the weights in some sample surveys;
- geographic profiling, comparisons, and benchmarking;
- analysis of population cohorts and migration trends;
- supporting well-being assessments required under the Well-being of Future Generations (Wales) Act 2015.

There are a range of users of population data from national and local government, charities and voluntary sector organisations, other government departments, students, academics and universities, individual citizens, and private companies. In particular there is a high level of interest in 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 analysed by age and sex. Population projections can identify trends that shape the context for future policy development.

The Planning (Wales) Act 2015 gained royal assent in July 2015. A key element of the Act is to enable local planning authorities to come together and prepare a Strategic Development Plan which transcends local authority boundaries, covering a wider geographical area and dealing with not just local issues. Evidence to support plan preparation will include demographic statistics and population and household projections which will need to be considered in a strategic context. Future iterations of projections will play a role in shaping strategic plans.

All local planning authorities with adopted Local Development Plans (LDPs) have to prepare an Annual Monitoring Report (AMR) which measures how policies have performed and what corrective action may be required. AMRs play a critical role in ensuring that the LDP is kept up-to-date. The progress demonstrated within the AMRs can have a bearing on future population levels and distribution, demographic profiles, and house prices. These outcomes and their relationship to the key objectives of the plan will form part of the AMR.

Accuracy

Population projections are trend-based projections that provide estimates of the size of the future population, and are based on assumptions about births, deaths and migration. The assumptions are generally based on past trends. 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

Population projections have their limitations. These national park population projections are not policy-based forecasts; they indicate what is expected to happen if the trends on which they are based continue.

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 to a greater effect than others. Due to the size of estimated migration flows, for some local authorities migration assumptions are more critical than fertility and mortality assumptions. Therefore, migration assumptions can have a significant long-term effect on certain areas.

Assumptions around birth and death rates are based on historical levels of mortality and fertility and their interaction with the population size at each age. They are subject to variation (for example, through changes in fertility trends or increases in life expectancy) but such changes are not usually short-term. Migration can also interact with these trends, but the migration assumptions themselves are subject to short-term fluctuations based on economic or social circumstances. So the setting of migration rates for the future using the rates for the previous five years means that the projections are potentially vulnerable to short-term volatility in migration rates. This may be particularly true for current projections, since the assumptions are based on a period which included the global recession and widespread changes in levels of migration.

There are factors which can influence the projections and the three main components of population change: changes in the economy; changes in individual, family, and household behaviour; and events outside the UK.

Timeliness and punctuality

A consultation on Welsh Government statistical outputs on population and household estimates and projections ran from February to May 2016. The aim of the consultation was to find out about the experience of users in using these statistical outputs and how it would be possible to improve them.

The consultation stated that it had been proposed to start work on new projections for the 22 local authorities and the 3 national park authorities during the first half of 2016. The stated aim was to begin to publish results from the autumn of 2016, with on-going outputs up to early 2017 and the local authority population projections (that the ones in this Release) in September 2016.

Respondents were asked the following questions:

- Do you agree with this timetable?
- What are your future needs for projections?
- How frequently should they be produced?

Most respondents thought that sub-national population projections and household projections should be produced once every three years. The national park authorities preferred them to be produced every other year. Respondents were evenly divided on whether household estimates should be produced annually.

The consultation response stated that sub-national population projections and household projections will be produced every three years (including those for national park areas). Household estimates will be produced annually (probably around three months after the mid-year population estimates are published). The plan is to produce 2014-based household projections before the end of the current financial year.

The UKSA have proposed that the Welsh Government should work with ONS and other UK administrations to align the base year for sub-national and national projections where possible.

Respondents were asked the following question:

- Do you agree with this approach?

All respondents agreed with this. The Welsh Government will work with ONS and other UK administrations to align the base year for sub-national and national projections as far as possible. Currently the planned publication frequencies for the Welsh Government and ONS are different (three years and two years respectively), so user needs will be considered ahead of each projections cycle. If there is an overwhelming user need for projections on a different base year to the national projections (as was the case for the 2011-based projections) this will be considered and any decision explained to users.

The [report detailing the summary of the consultation responses](#) and the Welsh Government follow-up actions has been published.

Please send any feedback on any aspects of these publications and any views on future timing requirements to: stats.popcensus@gov.wales

Accessibility and clarity

The UKSA published Assessment Report 310, [Population Estimates and Projections for Wales](#) (produced by the Welsh Government), in July 2015. It is one of a series of reports prepared under the provisions of the Statistics and Registration Service Act 2007. The Act gives the Statistics Authority power to re-assess whether the Code of Practice for Official Statistics continues to be complied with in relation to official statistics already designated as National Statistics. The report covers the following population estimates and population projections produced by the Welsh Government for Wales and reported in:

- Mid-year Estimates of the Population,
- Principal and Variant Local Authority Population Projections for Wales,
- Population Projections for national parks.

The report forms part of a broader assessment of sets of population statistics across the UK that are produced by the Office for National Statistics (ONS); the Welsh Government; National Records of Scotland (NRS), and the Northern Ireland Statistics and Research Agency (NISRA).

Assessment reports 309, 311 and 312 examine the population statistics produced by ONS, NRS and NISRA respectively.

Requirement 8 of the UKSA assessment stated that:

“The accessibility of the Welsh Government’s existing population estimates and projections outputs needs improving.

The Welsh Government should:

a) Improve the standard of commentary – to include additional contextual information and explanation for changes – and presentation to maximise accessibility for a wider range of users. ...”

The Welsh Government response to this requirement was:

“We made significant improvements to the commentary and presentation of the [Population Projections for national parks in Wales](#) release, including seeking feedback from the UKSA Good Practice team. Commentary is provided on the population structure in the 2015 Release and explanations of the factors affecting population change are included (for example, population trends for differing age groups, natural change, and migration).

The text of the 2015 Release has been assessed for accessibility by a member of staff with a Diploma in Plain English awarded by the Plain English Campaign, which means that they are qualified to assess whether a document would receive a Crystal Mark (the industry standard for accessibility). It was judged that the 2015 Release would receive a Crystal Mark. The Release was found to have a 37 per cent improvement over the 2011 Release. We will make similar improvements to the First Release *Local Authority Population Projections for Wales (2014-based)*.”

Comparability and coherence

Population projections are based on mid-year population estimates (as at 30 June each year). Mid-year population estimates for Wales and England are produced by the ONS. In order to produce the local authority projections the population estimates are combined with assumptions about births, deaths, and migration. These assumptions are based on past trends.

For migration the UN definition of an international migrant is used; that is, those changing country of residence for a period of at least 12 months. Short-term migrants (for example, migrant workers from Eastern European countries) are not counted in the population estimates.

These national park projections are based on the mid-[2014 population estimates for national parks in Wales](#).

The base data used to make the calculations is produced by ONS for the length of the projection period, usually twenty-five years. In order to produce population projections, assumptions need to be formed to project future levels of fertility, mortality, and migration for each local authority.

[Guidance on the methodology used by the ONS to produce the population estimates](#).

These projections are based on a similar methodology to the one used for the 2011-based local authority population projections.

national park population projections are produced using a well established demographic approach known as the cohort component method. That is:

- taking the most recent year's population estimate;
- taking out special population groups;
- ageing every person on one year;
- adding births and subtracting deaths;
- allowing for inward and outward migration;
- adding back in the special population groups.

The methodology for these projections has been developed in close collaboration with key users in Wales through the Wales Sub-national Projections (WASP) working group. This group has met on a regular basis during the preparation of the projections and has been a forum for technical discussion on the methodology and the base data used. Members of WASP include local authority and national park representatives and others with knowledge of and experience of demographic data and population projections.

Regular updates have also been provided at full meetings of the [Welsh Statistical Liaison Committee](#) (WSLC).

The assumptions are generally based on trends during the most recent 5 years, and the projections indicate what may happen should these trends continue. Adjustments have been made to the mortality assumptions at a five-year age group level, to take into account of future improvements in mortality rates. These adjustments have been taken from the ONS-produced

national population projections. In recent years, there has been an improvement in mortality rates, and thus a longer life expectancy. This is assumed to continue into the future.

The fertility assumptions are based on trends in recent years; in which the general trend has been for slightly higher birth rates for women in their thirties indicating delayed motherhood. The projections indicate what may happen in the future should these trends continue. Adjustments have been made to the fertility assumptions at a five year age group level, to take into likely future patterns in terms of age of mother. These adjustments have been taken from the ONS produced national population projections.

All figures relating to working age and pensionable age populations are based on the state pension age for the given year. Between 2010 and 2020, state pension age will change from 65 years for men and 60 years for women, to 65 years for both sexes. Between 2024 and 2046, state pension age will increase in three stages from 65 years to 68 years for both sexes.

Guidance on the detailed methodology used to produce the subnational population projections for Wales has been published in a [technical report](#). It describes how the national population projections were produced, and describes in detail the methodology used to derive assumptions on fertility, mortality, and migration.

Population projections are produced for similar small areas in England, Scotland and Northern Ireland, however, it should be noted that these projections are not directly comparable due to differences in methodology and base years. More information on the similarities and differences in these projections is available from the [Office for National Statistics](#).

Software

The PopGroup software was used to produce the projections. POPGROUP is a family of demographic models developed to generate population, household, labour force, and other derived projections for specified geographical areas or population groups (or both).

Forecasts can be made using a variety of data inputs and assumptions. Current populations and future populations can be estimated, with detailed age and sex composition. The main POPGROUP module provides a cohort component model (the methodology used by the UK national statistical agencies) that enables the development of population projections based on births, deaths, and migration inputs and assumptions.

POPGROUP can be used to produce population statistics of a quality suitable for use in strategic planning, service planning and policy development. POPGROUP is used extensively by local authorities and local and regional organisations across the UK. It uses Excel workbooks to manage the data inputs and outputs, and provides flexibility to enable users to experiment and analyse alternative projections.

Use of administrative data

The population projections use ONS administrative data. [Link to the ONS quality and methodology information reports for the population theme](#).

The reports contain information on the methods used to compile the data for the named output and on the quality of that data. They are designed to give information on the strengths and limitations of

the data so that decisions can be made on the appropriate uses of the data. ONS has the responsibility for assuring the quality of administrative data for use in official statistics. However, as a key user and producer of statistics the Welsh Government must ensure that the processes are appropriate to address any quality issues relevant to these projections, and the Welsh Government will work with ONS to consider how any improvements could be made in the future.

The administrative data used in the projections has been subject to internal checks for consistency and plausibility by the Welsh Government.

Birth statistics are based on the number of births occurring in a given year. They present data on births that occur and are then registered in England and Wales. Statistics are based on information collected at birth registration. Annual data are released in a series of theme-specific packages, usually between July and December. Annual birth statistics for the UK and its constituent countries are published in the vital statistics: population and health reference tables.

ONS birth statistics are based on registrations provided by the General Register Office (GRO). The data represent a legal record, making it the best and most complete data source.

As part of the birth registration process, before data are submitted through the Registration Online system for births and deaths (RON), the registrar asks the informant to verify that all data entered are accurate. The registrar is then able to correct any errors. There are some validation checks built into RON to help the registrar with this process. Information supplied at birth registration is generally believed to be correct since wilfully supplying false information may render the informant liable to prosecution.

When ONS receive birth registrations, a number of checks are carried out on records to ensure that they are valid. Checks are more frequent on those records with extreme values for main variables (such as age of mother and age of father) as these have a greater impact on published tables. Any birth records which appear questionable are raised with the GRO on a monthly basis for further investigation. Any proposed changes to the recording and collection of birth registration data are carefully managed and involve ONS, GRO, and other stakeholders. This ensures that any implications on birth statistics are taken into full consideration.

Changes recently made to the Population (Statistics) Act 1938 mean that improved data on previous children has been collected since May 2012. The changes will improve the accuracy of birth statistics by birth order and feed into estimates for family size and measures of fertility.

ONS carry out quarterly checks on the births dataset.

The Births and Deaths Registration Act (1836) made it a legal requirement for all deaths to be registered from 1 July 1837. Mortality statistics for England and Wales are based on the information collected when a death occurs and is then registered. Published figures represent the number of deaths registered in a reference period.

The annual mortality statistics cover England and Wales. The Annual Time Series Data table in the vital statistics: population and health reference tables provide a range of mortality statistics for the UK and its constituent countries, with some measures available back to 1838.

Daily extracts of death registrations from RON are received by ONS and then pass through a series of automatic validation processes which highlight any inconsistencies. The Mortality Metadata provides detailed information on the collection, processing, and quality of mortality data for England and Wales.

Internal consistency checks are then conducted to eliminate any errors made during the recording of deaths, and to ensure the annual dataset is complete. Before becoming usable for analysis the data pass through more validation checks and processes, these include running frequency counts on a range of variables, checking the plausibility of combinations of fields, and checking inconsistencies. Suspect records are referred back to register offices. Any concerns relating to cause of death are referred to a Medical Advisor or Medical Epidemiologist.

Long-term international and internal migration estimates at national park level for England, Wales, Scotland and Northern Ireland are produced by ONS, NRS, and NISRA for the purpose of producing a range of population estimates. The data are presented as:

- Long-term international immigration and emigration volumes - representing the number of people arriving in the UK or leaving the UK for a period of at least 12 months.
- Internal in-migration and out-migration volumes - an estimate of migration within the UK (crossborder flows between each of the constituent countries, as well as migration between local authorities).
- Long-term international and internal migration turnover rates (such as volume of movement between in- and out-migration) per 1000 (of the total population)
- Long-term international inflow and outflow rates per 1000 (of the total population)
- Total volume of migration per 1000 (the sum of internal and international migration). This indicates more clearly the areas with high levels of population turnover

Short-term international migration estimates at national park level for England and Wales are produced by ONS. The data consists of short-term international immigration volumes, representing the number of people who stayed in England and Wales for a period between 3 and 12 months.

The coverage of international migrants joining an administrative source will depend on the purpose of the particular administrative system and will invariably differ between sources.

From mid-2011 onwards, prisoners were regarded as usually resident at an institution if they are serving a custodial sentence of six months or more. Previously, prisoners were considered usually resident if they were serving a custodial sentence and had already been in prison for six months or more. This definition was changed in order to be more consistent with the 2011 Census definition of usual residence for prisoners.

For the Armed Forces special population, five years of data was averaged to estimate the number of armed forces in Wales for each sex and single year of age. These figures were then held constant through each year of the projection.

Prior to mid-2011, school boarders were treated as a special population as it was believed their movements were not captured in the data sources used to estimate internal migration. However,

further research has shown that school boarder moves are measured in the internal migration estimates and therefore this component will no longer be included in the mid-year estimates. As a consequence school boarders were treated as a special population in the 2006-based and 2008-based local authority population projections but this will not be the case in current and future projections.

National Statistics status

National Statistics are produced to high professional standards set out in the Code of Practice for Official Statistics. They undergo regular quality assurance reviews to ensure that they meet customer needs. They are produced free from any political interference. Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.

National Statistics status means that official statistics meet the highest standards of trustworthiness, quality and public value. All official statistics should comply with all aspects of the Code of Practice for Official Statistics. They are awarded National Statistics status following an assessment by the UK Statistics Authority's regulatory arm. The Authority considers whether the statistics meet the highest standards of Code compliance, including the value they add to public decisions and debate.

It is Welsh Government's responsibility to maintain compliance with the standards expected of National Statistics. If there are concerns about whether these statistics are still meeting the appropriate standards, these concerns will be discussed with the Authority promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.

The projections have been assessed by the [UK Statistics Authority](#) (UKSA) and have since been published as National Statistics. They were re-assessed ([UKSA report 310](#)) in July 2015 together with those of other UK countries. All the requirements in the assessment report have been met and their [National Statistics status was confirmed in October 2016](#).

There is more detail of the UKSA assessment in the *accessibility and clarity* section.

Well-being of Future Generations Act (WFG)

The Well-being of Future Generations Act 2015 is about improving the social, economic, environmental and cultural well-being of Wales. The Act puts in place seven well-being goals for Wales. These are for a more equal, prosperous, resilient, healthier and globally responsible Wales, with cohesive communities and a vibrant culture and thriving Welsh language. Under section (10)(1) of the Act, the Welsh Ministers must (a) publish indicators ("national indicators") that must be applied for the purpose of measuring progress towards the achievement of the Well-being goals, and (b) lay a copy of the national indicators before the National Assembly. The 46 national indicators were laid in March 2016; and although this Release does not provide data for any of the targets explicitly, some of the targets could be considered in relation to the projected population sizes in the Release.

Information on indicators and associated technical information - [How do you measure a nation's progress? - National Indicators](#)

[Further information on the Well-being of Future Generations \(Wales\) Act 2015.](#)

The statistics included in this release could also provide supporting narrative to the national indicators and be used by public services boards in relation to their local well-being assessments and local well-being plans.

Further details

The document is available at: <http://gov.wales/statistics-and-research/population-projections-national-parks/?lang=en>

[A guidance leaflet on the local authority population projections for Wales](#) is also available. It provides guidance on: population projections, the length of the projections, the use of local authority population projections, and when to use the national and local authority projections.

[Frequently Asked Questions.](#)

Next update

September 2019 (provisional)

We want your feedback

We welcome any feedback on any aspect of these statistics which can be provided by email to stats.popcensus@gov.wales

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