

SB 60/2009

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## 2008-Based National Population Projections for Wales

Population projections provide estimates of the future population. Projections are based on assumptions about future fertility, life expectancy, international and domestic migration. Projections only indicate what may happen should the assumptions become true.

This statistical bulletin looks at the Office for National Statistics's 2008-based principal national population projections for Wales, and its main focus is on the period to 2033. Longer-term projections are available, however, projections become increasingly uncertain the further they are carried forward.

### Key Results

- The population of Wales is projected to increase to 3.14 million by 2018 (5 per cent increase) and 3.35 million by 2033 (12 per cent increase). The population is projected to cross the 3 million mark between mid-2009 and mid-2010.
- Although more births than deaths are projected throughout most of the projection period, net inward migration is the main reason for projected population growth.
- The number of children is projected to decrease slightly during the first five years of the projection period, with around 1 per cent less children in 2013 than in 2008. This is because the projected decrease in the number of older children is greater than the increase in the number of young children during the next few years.
- The number of pensioners is projected to increase during most of the projection period despite the change to state pension age (see Annex). It is projected that there will be 185,000 (29 per cent) more pensioners in 2033 than in 2008.
- The population of Wales will become gradually older with the median age of the population rising from 41.1 years in 2008 to 44.2 years in 2033.

**Table 1: Projected population by age, 2008 to 2033 (selected years)**

	2008 (a)	2013	2018	2023	2028	2033
Children	553	547	563	579	579	574
Working age	1,798	1,837	1,889	1,911	1,955	1,949
Pension age	639	672	686	729	756	824
All ages	2,990	3,056	3,137	3,219	3,290	3,347

Note: Children under 16. Working age and pensionable age populations based on state pension age for given year. See Annex.

(a) Adjusted 2008 data – see Key Quality Information

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**Next Update:** October 2011 (provisional)

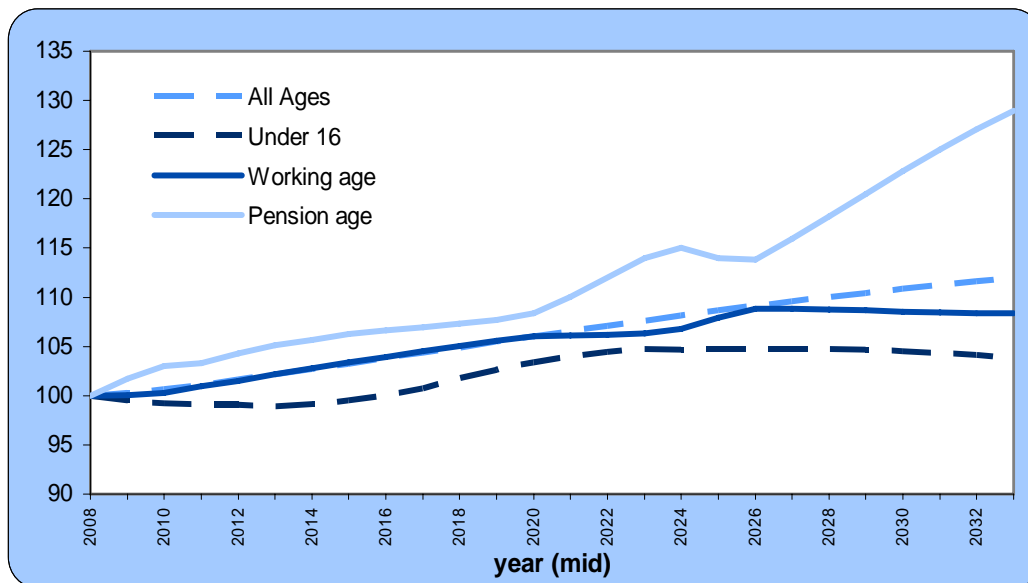


## Projected Population by Age Group

The estimates of the population on which these projections are based are slightly different to the published mid-2008 population estimates published by ONS on 27 August 2009. This is because the published estimates have been adjusted to take account of future revisions to mid-year population estimates for England and Wales.

Table 1 shows the projected population of Wales by age group for selected years from 2008 to 2033. Chart 1 shows how the population by broad age group is projected to change during the 25 year projection period, relative to the base year.

**Chart 1: Population Projections for key groups (indexed)**



Source: National Population Projections, ONS

The population of Wales is projected to increase to 3.14 million by 2018 (5 per cent) and 3.35 million by 2033 (12 per cent). The population is projected to cross the 3 million mark between mid-2009 and mid-2010.

The number of children is projected to decrease slightly during the first five years of the projection period, with around 1 per cent less children in 2013 than in 2008. This is because the projected decrease in the number of older children is greater than the increase in the number of young children during the next few years. The number of children is projected to gradually increase from 2013 to a peak of around 579,000 in 2027 before decreasing slightly during the latter years of the projection period.

The number of pensioners is projected to increase during most of the projection period despite the change to state pension age (see Annex for further details). The number of pensioners is expected to gradually increase over the next 12 years, before increasing more sharply during the period 2020 to 2024. There is a projected decrease in the number of pensioners between 2024 and 2026, before the number of pensioners increases sharply again from 2026 onwards. This is the impact of those born in the 1960s reaching retirement age. It is projected that there will be 185,000, or 29 per cent more pensioners in 2033 than in 2008.

The population of Wales will become gradually older with the median age of the population rising from 41.1 years in 2008 to 44.2 years in 2033. This is due to a combination of higher life expectancy and relatively fewer children being born.

## Age groups and dependency ratios

As the age structure of the population changes over time, there is an effect on the proportion of dependent people (children aged under 16 and people of state pension age).

- In 2008, children under 16 accounted for around 18.5 per cent of the population, and pensioners accounted for 21.4 per cent of the population.
- By 2033, children are expected to represent 17.2 per cent of the population and pensioners around 24.6 per cent.

**Table 2: Dependants per 1,000 people of working age**

	2008 (a)	2013	2018	2023	2028	2033
Children	308	298	298	303	296	295
Pension age	356	366	363	381	386	423
Total	663	664	661	684	683	718

(a) Adjusted 2008 data – see Key Quality Information

Source: National Population Projections, ONS

- In 2008, there were around 308 children per 1,000 people of working age. This is projected to remain fairly stable at around 295 to 305 during the period 2008 to 2033.
- In 2008, there were around 356 pensioners per 1,000 people of working age. This is expected to increase to over 420 per 1,000 people of working age by 2033.

During the period 1971 to 2008, despite an increase in the number of pensioners, the decrease in the number of children led to the number of dependants per 1,000 people of working age falling (from around 732 to 663). However, the total number of dependent people per 1,000 people of working age is projected to increase to around 718 by 2033.

## Population Projections for Other UK countries

Table 3 shows the projected population growth for the other UK countries by 2018 (10th year of projection) and 2033 (25th year of the projection period).

**Table 3: Projected population growth (%) by the years 2018 and 2033**

	2018	2033
Wales	5	12
England	7	18
Scotland	4	7
Northern Ireland	7	14

Source: National Population Projections, ONS

Of the 4 UK countries, England is projected to experience the highest population growth during the first 10 and 25 years of the projection period. From 2008 (base year) the population is projected to increase by 7 per cent by the year 2018, and by 18 per cent by the year 2033. Population growth is projected to be lowest in Scotland (4 per cent by 2018 and 7 per cent by 2033).

## Summary of components of Population Change

Table 4 shows five year summaries of projected components of population change.

**Table 4: Components of population change – five year summary**

	2008-2013	2013-2018	2018-2023	2023-2028	<i>Thousands</i> 2028-2033
Population at start	2,990	3,056	3,137	3,219	3,290
Births	174	177	178	175	171
Deaths	152	148	149	156	166
Natural Change	22	29	29	19	5
Net Migration	44	53	53	53	53
Total Change	65	82	82	71	57
Population at end	3,056	3,137	3,219	3,290	3,347

Source: National Population projections, ONS

Note: Figures may not sum due to rounding.

- Net inward migration will be the main reason for projected population growth throughout the projection period.
- Natural change is expected to be positive until around 2031, with a roughly equal number of births and deaths during the period 2031 to 2033.
- Total population change is projected to be around 65,000 for the first five years of the projection period. This is projected to rise to around 82,000 during the period 2013 to 2018 and 2018 to 2023.
- Total population growth is projected to decrease to around 57,000 for the last five years of the projection period. This is due to the difference between births and deaths being much lower during the last five years of the projection period.

## Fertility Assumptions

The long-term assumption of average family size for Wales has been set to 1.85 children per woman. This is the same as for the 2006-based population projections and is 0.1 higher than the 2004-based population projections. This rise follows an increase in fertility rates in Wales, and across the rest of the UK in recent years.

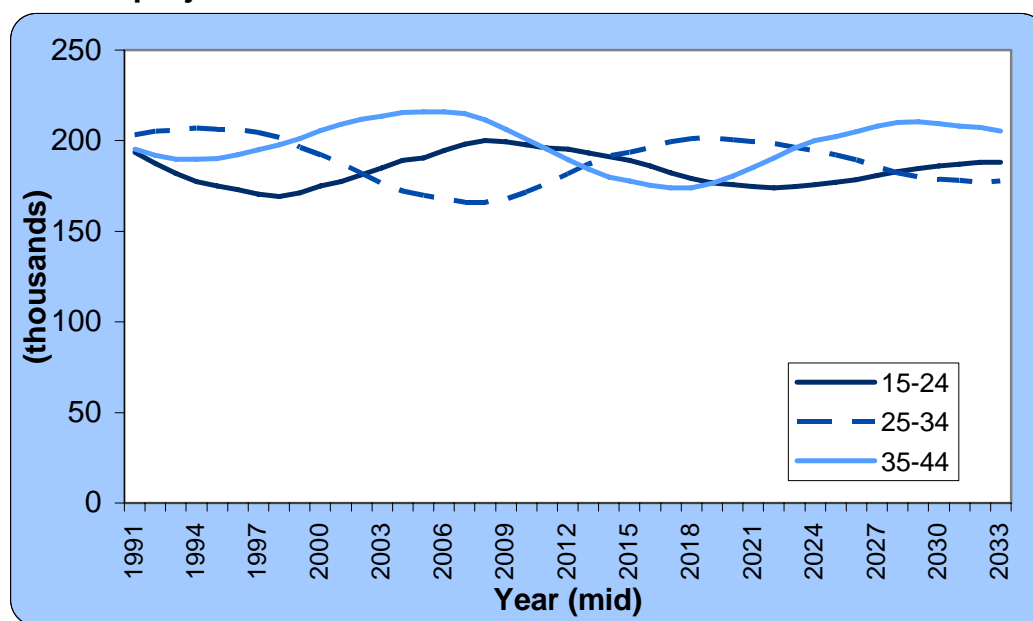
The level of fertility required for the population to replace itself in size in the long-term, given constant mortality rates and the absence of migration, is known as the replacement fertility level. The replacement fertility level is just under 2.1 children per woman.

Although the assumption for total fertility rate is the same throughout the projection period, fertility rates by age are assumed to change throughout the projection period. The projected number of births is dependent on fertility rate assumptions and the projected number of women of child-bearing age.

The number of women of childbearing age (15-44 years) decreased from 592,000 in 1991 to 569,000 in 1999 and then gradually increased to a peak of around 579,000 in mid-2007. The number of women of childbearing age is projected to decrease from around 577,000 thousand to around 554,000 during the period 2008 to around 2018, before increasing again to another peak of around 575,000 in 2029.

Chart 2 shows the number of women of childbearing age by broad age group.

**Chart 2: Number of women of childbearing age, historic and projected**



Note: Adjusted 2008 data – see Key Quality Information  
 Source: Mid-year Estimates and National Population projections, ONS

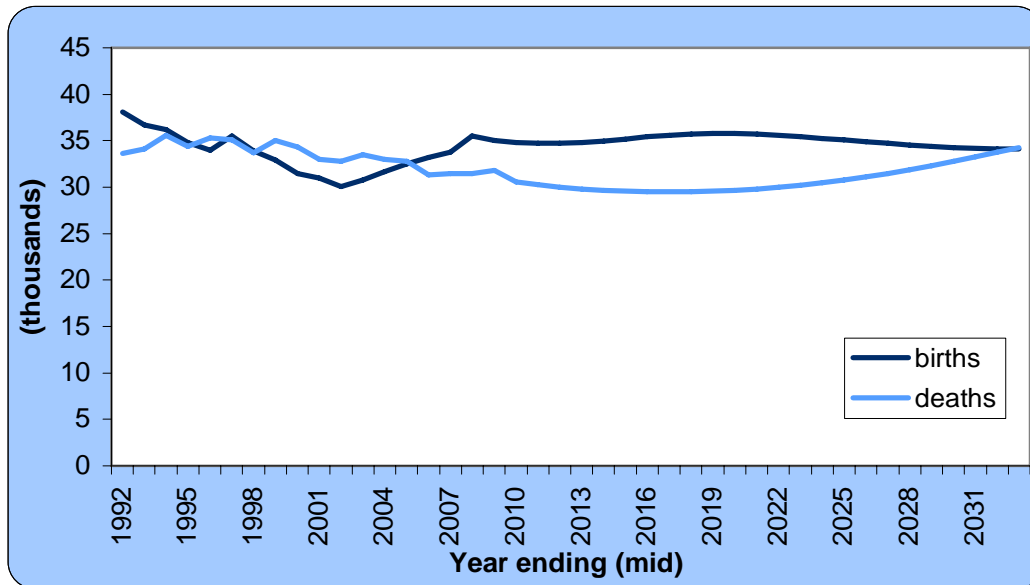
## Life Expectancy

For the 2008-based national population projections, projected life expectancy at birth for the year to mid-2033 (25 year ahead) is assumed to be 82.7 year for males and 86.6 years for females. The projections assume that the annual rates of mortality improvement will converge to a common rate of 1.0 per cent a year at 2033 for most ages, and continue to improve at that constant rate thereafter. However, it will now be assumed that those born in the years 1923 to 1941 will continue to experience the higher rates of mortality improvements we have seen in their lives so far.

## Projected number of births and deaths

Chart 3 shows the projected number of births and deaths during the projection period.

**Chart 3: Number of births and deaths, historic and projected**



Source: Civil Registration and National Population Projections, ONS.

- There were more deaths than births in Wales during the late 1990s and early 2000s. However, births have exceeded deaths in recent years.
- The number of births is expected to increase in the next few years, and to remain at around 35,000 to 36,000 births during the period 2009 to mid-2020s. Births are then expected to decrease slowly to around 34,000 by 2033.
- The number of deaths in Wales is projected to decrease over the next few years and to remain stable at around 30,000 deaths for the period 2011 to 2024. The number of deaths is then projected to increase steadily to reach around 34,000 by 2033.

It is anticipated that there will be more births than deaths throughout nearly the whole projection period. This is due to an increase in the projected fertility rates and an expected continued increase in life expectancy.

## Migration

Population increases in Wales over the last twenty years have been increasingly driven by net migration from the rest of the UK and abroad. However, the inflow and outflow of migrants fluctuates from year to year making it difficult to project the number of migrants in the future. Long-term migration assumptions are based on recent trends.

In the 2008-based national population projections, the long-term (from 2014/15 onwards) assumption for net migration is +10,500. This includes a +7,500 long-term cross-border (within UK) net migration assumption and a +3,000 long-term international net migration assumption. The long-term migration assumption for the 2006-based projections was +9,500.

## Variant National Population Projections

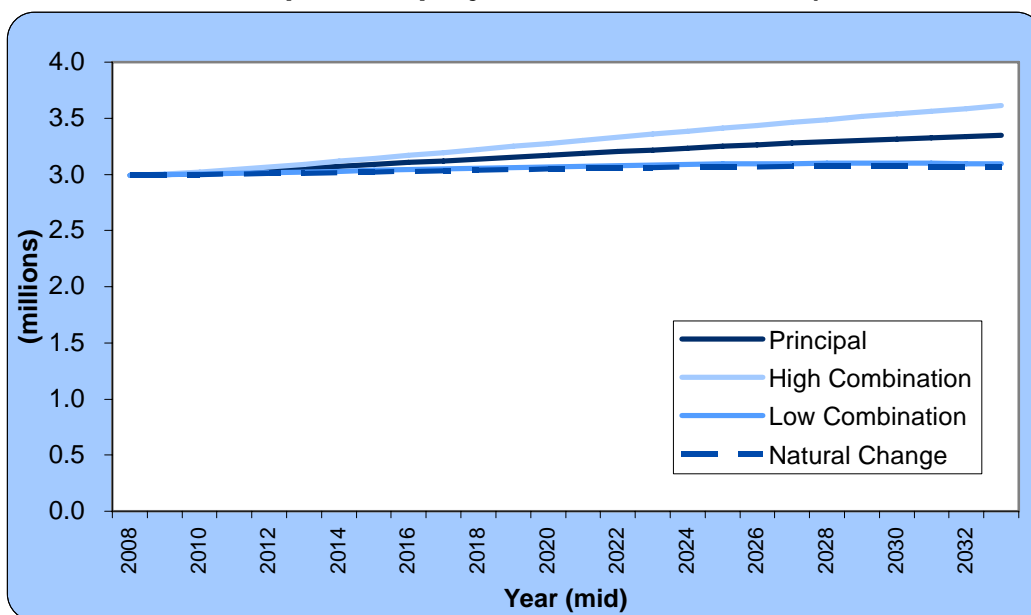
The principal projections provide a consistent starting point. However, the assumptions made about births, deaths and migration are not certain. To reflect this, ONS have published a selection of variant population projections. These are based on different assumptions and illustrate the effects of the uncertainty around the assumptions themselves.

The variant projections published on 21 October 2009 include

- High Combination (high fertility, high life expectancy and high migration)
- Low Combination (low fertility, low life expectancy and low migration)
- Zero migration / natural change (zero migration, principal fertility and mortality)

ONS will publish further variants in November 2009.

**Chart 4: Variant Population projections, 2008 to 2033 (selected variants)**



Source: National Population Projection Variants, ONS

- The High Combination variant projections suggest that a combination of high fertility, high life expectancy and high migration will cause the population of Wales to grow by nearly 20.8 per cent (621,000) by 2033.
- The Low Combination variant projections suggest that a combination of low fertility, low life expectancy and low migration will cause the population of Wales to grow by around 3.5 per cent (104,000) by 2033.
- The zero migration variant projections suggest that natural change alone will cause the population of Wales to grow by around 2.5 per cent (74,000) by 2033.

## Further Information

Population projections by age and gender for the first twenty-five years of the projection period (2006 to 2031) are available on the StatsWales website:

[www.statswales.wales.gov.uk](http://www.statswales.wales.gov.uk)

Longer term projections, variant projections and further detailed information is available on the ONS website

<http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=8519>

Further information on the 2006-based local authority population projections are available at:

<http://wales.gov.uk/topics/statistics/theme/population/pop-project/popprojla/?lang=en>

2008-based local authority population projections will be published in summer 2010.

## Feedback

We would welcome feedback on the content and format of this statistical bulletin.

To provide feedback and for general queries, please contact:

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## Annex: Key Quality Information

### Data Source

The Office for National Statistics (ONS) produces national population projections for Wales, and the other 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. 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.

### Base Population

Population projections are based on mid-year population estimates. These are annual estimates of the usually resident population of each area.

The estimates of the population on which the current projections for both England and Wales are based are slightly different to the published mid-2008 population estimates published by ONS on 27 August 2009. This is because the published estimates have been adjusted to take account of future revisions to mid-year population estimates for England and Wales.

ONS is undertaking a significant programme of work to improve the population and migration statistics it produces. As announced in February 2009, a package of improvements for mid-year population estimates for England and Wales has been identified and these will be implemented in May 2010, when revised population estimates for local authorities in England and Wales for mid-2002 to mid-2008 will be published. Further information can be found at:

[www.statistics.gov.uk/about/data/methodology/specific/population/future/imps/updates/default.asp](http://www.statistics.gov.uk/about/data/methodology/specific/population/future/imps/updates/default.asp)

ONS has taken the decision to include indicative impacts of the future improvements within the base population for the national population projections. The adjustments that have been made to the published mid-2008 population estimates for Wales are indicative of the impact the improvements will have at national level. Although these indicative changes are subject to further revision when the final revised population estimates for England and Wales are published in May 2010, the size of any further revision is expected to be small at the national level.

The table below compares the base population estimates used in the current projections with published mid-2008 population estimates.

	Base population for 2008-based projections	Published mid-2008 population estimate	Difference
Wales	2,990,000	2,993,000	-3,000

The base population for Wales is around 3,000 lower than the corresponding published estimate.

## **Definitions**

Throughout this bulletin, 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.

## **Methodology**

2008-based variant projections are produced based on different combinations of alternative assumptions of future fertility, mortality and migration. These are available on the ONS website website:

<http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=8519>

## **Frequency**

The ONS produces 'full' population projections by age and sex for the United Kingdom and constituent countries every two years, although an 'interim' set was produced in 2003. These 'full' projections are based on a review of all the underlying assumptions regarding fertility, mortality and net migration.