

Embargoed until 10:45am – 17 November 2009

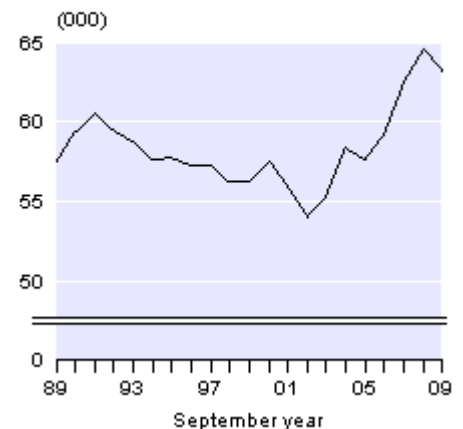
## Births and Deaths: September 2009 quarter

### Highlights

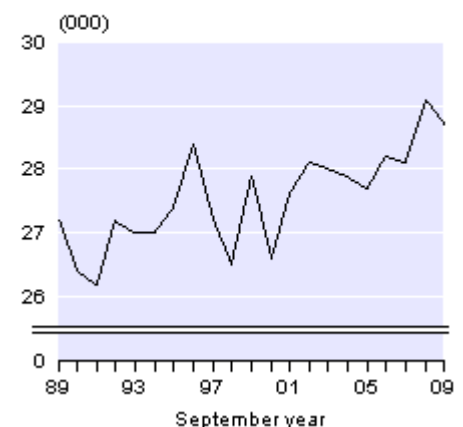
In the September 2009 year:

- 63,160 live births were registered in New Zealand, down from 64,540 in the September 2008 year.
- The total fertility rate was 2.1 births per woman.
- Women aged 30–34 years had the highest fertility rate (124 births per 1,000 women).
- 28,680 deaths were registered, down from 29,130 in 2008.
- The median age at death was 77 years for males and 83 years for females.
- The infant mortality rate was 4.5 deaths per 1,000 live births.
- Births exceeded deaths by 34,480.

Live Births  
1989–2009



Deaths  
1989–2009



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# Commentary

## Live births

There were 63,160 live births registered in New Zealand in the September 2009 year, down 1,380 (2 percent) from the September 2008 year. Most of the decrease (87 percent) was due to a drop in birth registrations in the June 2009 quarter compared with the June 2008 quarter. Live births registered in the September 2009 quarter totalled 16,310, an increase of 200 (1 percent) from the September 2008 quarter.

The latest annual figure is 7 percent higher than the average of 58,770 births per year over the last decade, when the number of births varied from a low of 54,010 in the September 2002 year to a high of 64,540 in the September 2008 year.

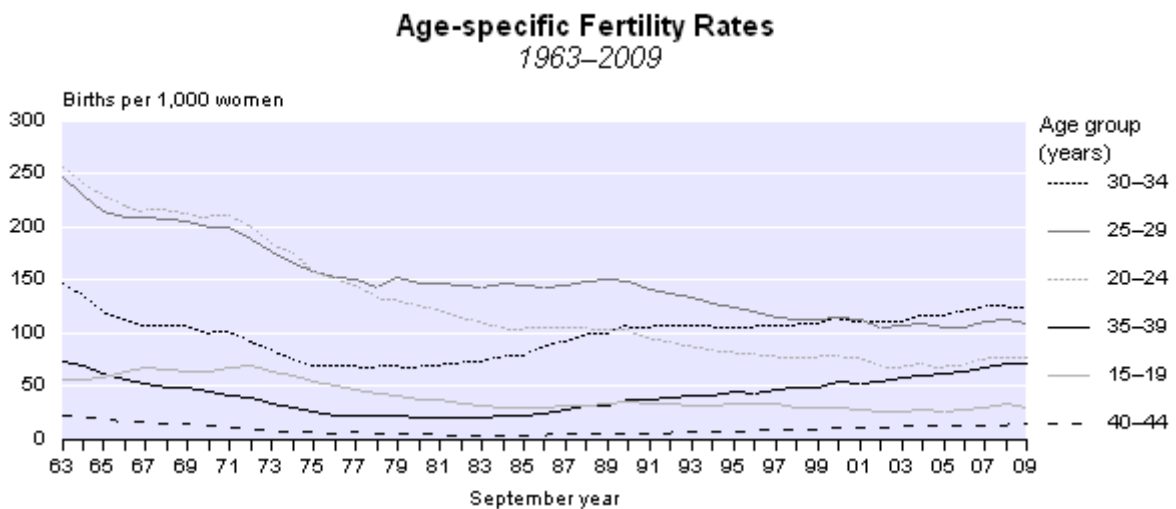
The highest number of births registered in any September year was 65,660 in 1962. At that time New Zealand's population numbered just 2.5 million, compared with 4.3 million in 2009.

During the September 2009 year, the births of 32,670 boys and 30,490 girls were registered to mothers resident in New Zealand. On average, throughout the world, 105 boys are born for every 100 girls.

## Fertility rates and mother's age

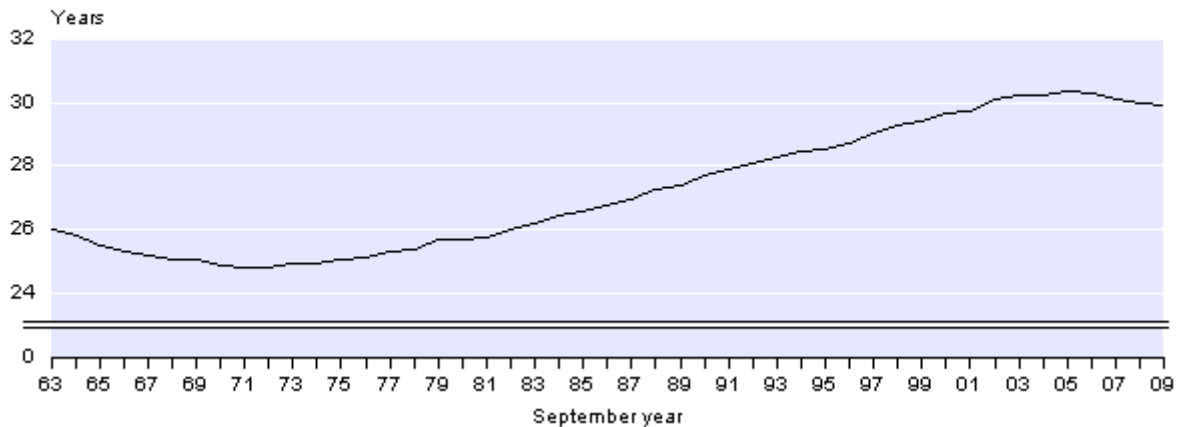
In the September 2009 year, women aged 30–34 years had the highest fertility rate (124 births per 1,000 women aged 30–34 years), followed by those aged 25–29 years (109 per 1,000) and 20–24 years (77 per 1,000). Compared with the high fertility seen in the early 1960s, women in all age groups now have fewer babies. In 1963, women aged 20–24 years had the highest fertility rate (256 per 1,000), followed by those aged 25–29 years (248 per 1,000) and 30–34 years (147 per 1,000). (Age-specific fertility rates before 1992 are based on December years.)

Compared with the September 2008 year, fertility rates were lower for women in all age groups apart from 40–44 years.



The median age (half are younger and half older than this age) of New Zealand women giving birth is now 30 years, compared with 26 years in 1963. The median age dropped to just below 25 years in the early 1970s. Although there has been a significant increase in the median age since the 1970s, it has been relatively stable at around 30 years in the past decade. While there has been a small drop since the September 2005 year, this is not necessarily indicative of a reversal in the trend towards older childbearing, but partly reflects changes in age structure within the childbearing age group. The median age of women aged 15–39 years has dropped by just over one year since 2001.

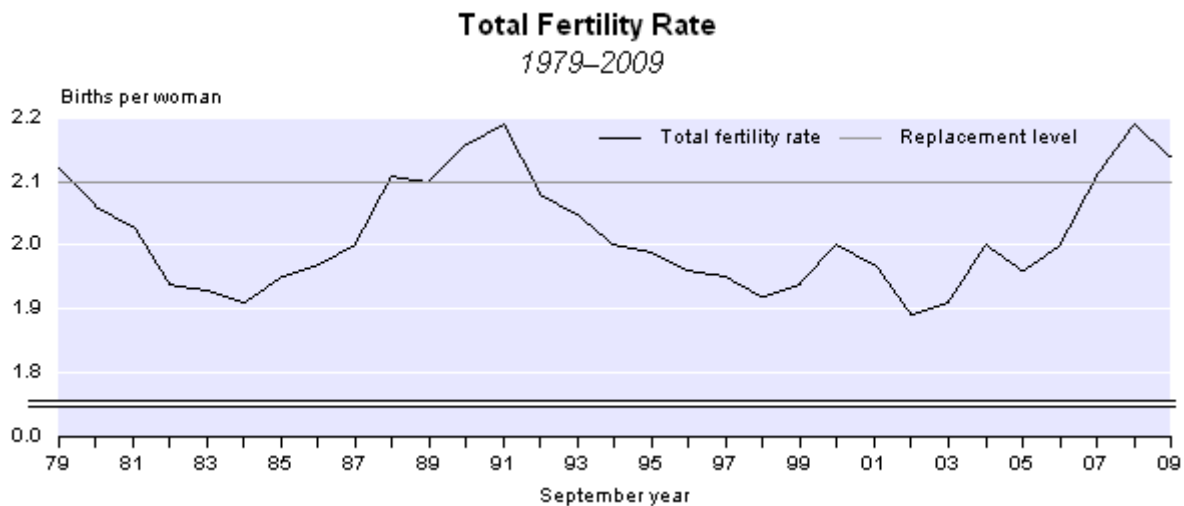
**Median Age of Mother**  
1963–2009



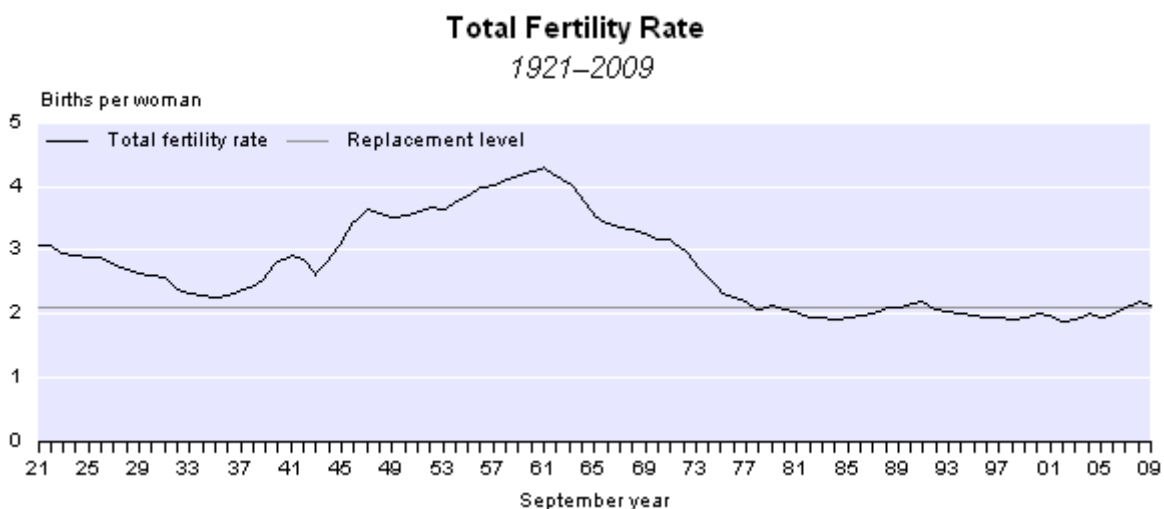
The median age of women giving birth to their first child (based on children in the current relationship only) was 28 years in the year ended September 2009, and has been relatively stable over the last decade.

### **Total fertility rate**

The total fertility rate summarises the age-specific fertility rates into a single number indicator of fertility. Age-specific fertility rates for the September 2009 year indicate that New Zealand women averaged 2.14 births per woman, down from 2.19 in the September 2008 year. The level required by a population to replace itself in the long term, without migration, is 2.1 births per woman. However, fertility rates of close to, or higher than, 2.1 births per woman need to be sustained over many years before 'replacement level' fertility can be claimed. Since 1980, fertility in New Zealand has been slightly below the replacement level, with the exception of short periods around 1990 and 2008. Annual fluctuations in the total fertility rate do not necessarily indicate changes in family size, but rather changes in the timing of births.



New Zealand's total fertility rate has been relatively stable over the last three decades, averaging 2.01 births per woman. During this period, the total fertility rate varied from 1.89 to 2.19 births per woman. In contrast, fertility rates increased dramatically from the mid-1940s, peaking at 4.31 births per woman in 1961. New Zealand then experienced decreasing fertility, with the total fertility rate dropping to 4.05 in 1963, 3.00 in 1972, and 2.12 in 1979. (Total fertility rates before 1980 are based on December years.)



A number of other low-fertility countries have experienced slight recoveries in their fertility rates in recent years, including Australia (up from 1.7 births per woman in 2001 to 1.9 in 2007), England and Wales (up from 1.6 in 2001 to 2.0 in 2008), Norway (up from 1.8 in 2002 to 2.0 in 2008), Scotland (up from 1.5 in 2002 to 1.8 in 2008), and Sweden (up from 1.5 in 1999 to 1.9 in 2008).

### Births by ethnicity

The 2006 Census showed that 10 percent of the census usually resident population identified with more than one ethnic group. Birth registrations for the September 2009 year show that 13 percent of mothers and 25 percent of babies identified with more than one ethnic group. This suggests that younger generations are becoming increasingly multicultural. Two-thirds of Māori babies and about one-half of Pacific babies belonged to

multiple ethnic groups, compared with just under one-third of babies within the European and Asian ethnic groups.

In the September 2009 year, the European ethnic group gained 43,640 babies, Māori 18,300, Pacific peoples 10,140, Asian 7,370, MELAA (Middle Eastern, Latin American and African) 1,220, and 'other' (including New Zealanders) 500.

The total fertility rate for Māori women in the September 2009 year was 2.85 births per woman, down from 2.97 in 2008 and well above the rate for the total population (2.14 births per woman). In the September 2009 year, there were 14,360 live births registered to Māori women. Māori women giving birth tend to be younger, with a median age of 26 years in the September 2009 year. The median age for Pacific, Asian, and European women was 27, 30, and 31 years, respectively.

## **Regional live births**

Births decreased in 12 regions during the September 2009 year when compared with the September 2008 year. Increases were recorded in the Taranaki (up 4 percent), Wellington (up 1 percent), and Otago (up 1 percent) regions and there was little change in the number of births in Southland.

The regions with the highest percentage decreases were Gisborne (down 10 percent) and Tasman (down 8 percent). Auckland had the greatest numerical decrease, with 690 fewer births. This drop accounted for 50 percent of the national decrease in the number of births in the September 2009 year and was mostly due to a drop in births in the June 2009 quarter compared with the June 2008 quarter.

Despite the decrease, the Auckland region had the highest number of births in the September 2009 year (22,590), accounting for 36 percent of all live births registered in New Zealand. This was followed by the Canterbury (7,190), Wellington (6,960), and Waikato (6,300) regions. Together, these four regions accounted for just over two-thirds of all live births registered in the September 2009 year. This is consistent with their share of New Zealand's population.

## **Deaths**

Deaths registered during the September 2009 year totalled 28,680. The latest figure is down 2 percent from 29,130 in 2008, but higher than the number of deaths recorded in any other September year. There were 14,330 male deaths and 14,350 female deaths. The number of deaths has gradually increased over time due to population growth in the older age-groups, partly offset by longer life expectancy. Fifty years ago, in the September 1959 year, deaths numbered 20,910. The number of deaths increased by about one-fifth over the following 10 years, to 24,210 in 1969, but the rate of growth since has been slower. Statistics New Zealand's mid-range population projections (series 5) indicate deaths will continue to increase, surpassing 40,000 in 2029 and 50,000 in 2042.

Deaths continue to be increasingly concentrated in the older age groups. The median age at death in the September 2009 year was 77 years for males and 83 years for females, compared with 71 for males and 78 for females in 1989. Only 5 percent of the

deceased were aged under 40 years in the September 2009 year, compared with 9 percent in 1989.

The crude death rate (deaths per 1,000 mean estimated resident population) is influenced by the age structure of the population, and therefore does not provide a true measure of the trends in mortality. For example, the crude death rate for the Māori population (4.4) was much lower than for the total population (6.7) in the September 2009 year. This lower rate is due to the much younger age structure of the Māori population.

Age-standardised death rates provide an alternative summary of the mortality experience of populations with very different age structures. The standardised death rate for the Māori population (6.8 deaths per 1,000 mean estimated population) was much higher than that for the total population (3.9) in the September 2009 year (using the mean estimated population for the December 1961 year as the standard population). Standardised death rates for both the Māori and total populations have dropped over the last 10 years, down from 9.3 and 5.1 per 1,000 in the December 1999 year. (Standardised death rates for September years are not available before 2001.)

It is important to note that standardised death rates can only be used to compare mortality trends for populations that have been standardised against the same standard population. Life tables give a more accurate and detailed description of the mortality experience across populations and time.

## **Life expectancy**

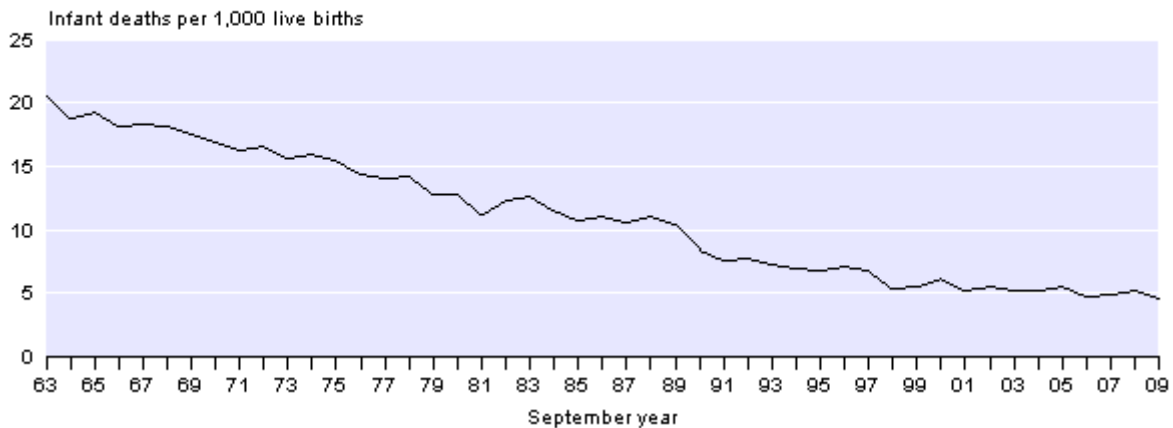
According to the New Zealand abridged period life table for 2006–08, a newborn girl can be expected to live, on average, 82.2 years, and a newborn boy, 78.2 years. This represents longevity gains since 2000–02 of 1.1 years for females and 1.9 years for males. While female life expectancy is still higher than male life expectancy, the longevity gap has narrowed from 6.4 years in 1975–77 to 4.0 years in 2006–08. Since 1975–77, life expectancy at birth has increased by 6.8 years for females and 9.2 years for males.

Abridged period life tables are produced annually for the total population only. Complete life tables are produced for the Māori, non-Māori, and total populations every five years. The latest complete life tables, New Zealand Life Tables: 2005–07, show that Māori life expectancy was 75.1 years for females and 70.4 years for males in 2005–07.

## **Infant mortality and stillbirths**

During the September 2009 year, the number of infant deaths (under one year of age) registered in New Zealand totalled 290. The infant mortality rate (infant deaths per 1,000 live births) has dropped over the last 40 years. In the September 2009 year, the infant mortality rate was 4.5 per 1,000, down from 5.5 in the September 1999 year, and 17.6 in 1969. The Māori infant mortality rate was 6.2 per 1,000 in the September 2009 year, down from 23.0 in 1969.

## Infant Mortality Rate 1963–2009



Neonatal deaths (under four weeks of age) made up 55 percent of infant deaths in the September 2009 year. The neonatal mortality rate (neonatal deaths per 1,000 live births) was 2.5 in 2009, down from 2.9 in 1999. The post-neonatal mortality rate (infant deaths over 27 days of age per 1,000 live births) also dropped, from 2.6 in 1999, to 2.1 per 1,000 in 2009.

Australia has also experienced a drop in infant mortality rates in the last decade. In the December 1997 year, New Zealand's infant mortality rate was 6.5 per 1,000 live births, compared with 5.3 per 1,000 in Australia. By 2007, New Zealand's infant mortality rate had dropped to 4.9 per 1,000 and Australia's rate had dropped to 4.2 per 1,000. (The 2007 data is the most recent available for Australia.)

Scotland (4.7 per 1,000 live births), and England and Wales (4.8) had similar infant mortality rates to New Zealand's in 2007. However, a number of other low-fertility countries had lower infant mortality rates: Sweden (2.2), Finland (2.7), Norway (3.1), France (3.6), and Denmark (4.0).

There were 380 stillbirths in the September 2009 year. This corresponds to 6.0 stillbirths per 1,000 births (live and stillbirths combined).

### Regional deaths and life expectancy

Deaths decreased in eight regions in the year ended September 2009. The largest numerical decreases were in the Auckland (down 370 or 5 percent), Waikato (down 100 or 3 percent), and Wellington (down 90 or 3 percent) regions. Increases were recorded in the regions of Manawatu-Wanganui (up 160 or 9 percent), Canterbury (up 110 or 3 percent), and Otago (up 70 or 4 percent), whereas there was little change in Hawke's Bay, Southland, Marlborough, West Coast, and Taranaki.

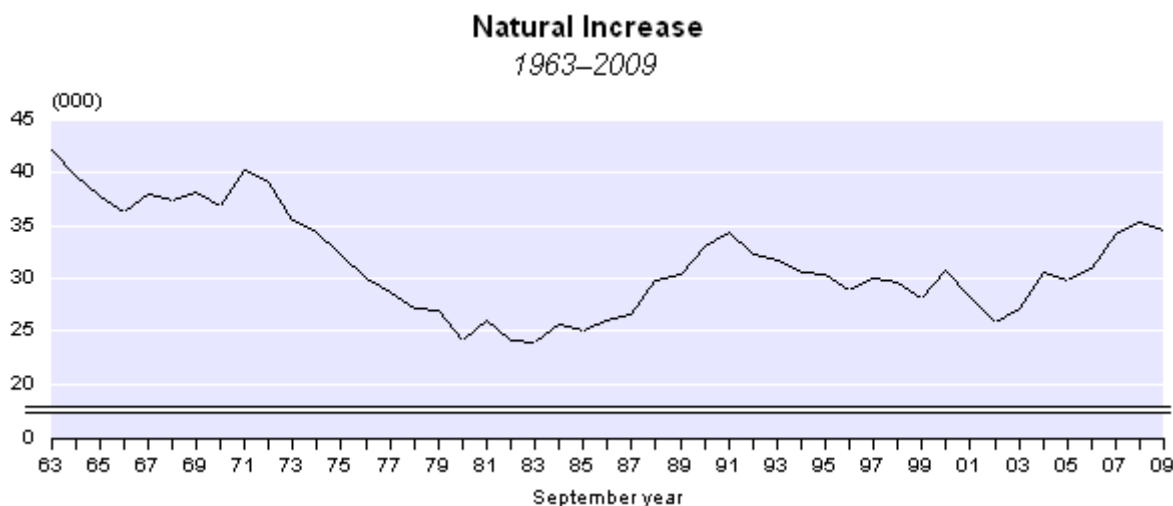
During the September 2009 year, the Auckland region had the highest number of deaths (7,200). Although the Auckland region is home to approximately one-third of New Zealand's population, it only accounted for about one-quarter of New Zealand's deaths. This is due to the region's relatively young age structure. Only 10 percent of the Auckland region's population is aged 65 years and over, compared with 13 percent for the national population.

Statistics NZ's report New Zealand Life Tables 2005–07, released in May 2009, includes the latest information from abridged life tables for regions. The highest life expectancy during 2005–07 was in the Auckland region, for both males (79.4 years) and females (83.2 years). Other regions where life expectancy exceeded the national average were Wellington, Tasman, Nelson (males only), Canterbury, and Otago. The Gisborne region had the lowest life expectancy for both males (73.8 years) and females (78.1 years).

All regions experienced increases in life expectancy between 1995–97 and 2005–07. The regions with the highest life expectancy gains were West Coast (up 4.6 years for males and 3.3 years for females), Auckland, and Wellington (each up 4.2 years for males and 3.0 years for females).

## Natural increase of population

Natural increase of population represents the excess of births over deaths. Births outnumbered deaths by 34,480 in the September 2009 year, down from 35,410 in the September 2008 year. The rate of natural increase was 8.0 per 1,000 mean estimated resident population in the September 2009 year. The 2009-base mid-range national population projections (series 5) show that natural increase is likely to decline over the next 50 years, dropping to 5,500 in 2061.



All regions in New Zealand had more births than deaths in the September 2009 year. Auckland's natural increase (15,380) made up 45 percent of the national natural increase. Auckland's large share of New Zealand's natural increase is due to the small number of deaths relative to the number of births and the size of its population. The next highest natural increase was in Wellington (4,060), followed by Waikato (3,530), and Canterbury (3,020).

## Final figures and revised demographic rates

The vital statistics and infant mortality rates for the September 2009 year quoted above, and contained in the appended tables, are final. Fertility rates and crude death rates for the September 2009 quarter and year are provisional. For further details see 'Technical notes' in this release.

## Free online database

Statistics NZ's [Infoshare database](http://www.stats.govt.nz/Infoshare) ([www.stats.govt.nz/Infoshare](http://www.stats.govt.nz/Infoshare)) is a free-of-charge online tool that gives you access to a range of time-series data. A number of tables can be found under **Population** on the **Browse** page of Infoshare for the following subjects:

- Vital Statistics – Births
- Vital Statistics – Deaths
- Demography Fertility Measures
- Demography Mortality Measures.

## Review of vitals outputs

Statistics NZ is currently undertaking a review of its vitals outputs (ie births, deaths, marriages, and divorces). The review aims to ensure information remains relevant and easily accessible. Proposed changes include: integrating de facto and resident series, adding data previously published elsewhere to Infoshare, and replacing urban area data with District Health Board data for births and deaths.

For technical information contact:  
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### Next release ...

*Births and Deaths: December 2009 quarter* will be released on 22 February 2010.

## **Technical notes**

### **Births**

Births data are based on live births registered in New Zealand to mothers resident in New Zealand by date of registration. Births data exclude late registrations under section 16 of the Births, Deaths, Marriages, and Relationships Registration Act 1995. Section 16 births are those that were not registered in the ordinary way at the time the birth occurred.

### **Stillbirths**

The Births, Deaths, Marriages, and Relationships Registration Act 1995, which took effect from 1 September 1995, redefined a stillbirth as a child who is born dead and weighs 400g or more or is born dead after the 20th week of gestation. Before the new Act, a stillbirth was defined as a child born dead after 28 weeks of gestation. This change in definition means that stillbirths from September 1995 onwards are not directly comparable with earlier years.

### **Deaths**

Deaths data from 1991 onwards are based on deaths registered in New Zealand of New Zealand residents by date of registration. Before 1991, deaths data are based on deaths registered in New Zealand of New Zealand residents and people visiting from overseas by date of registration.

### **Replacement level fertility**

Replacement level fertility is the average number of children a woman needs to have to produce one daughter who survives to childbearing age. Replacement level fertility is also described as the total fertility rate required for the population to replace itself in the long term, without migration.

The internationally accepted replacement level is 2.1 births per woman. Replacement level fertility allows for child mortality (children who die before reaching reproductive age) and the birth of more boys than girls. On average, throughout the world, 105 boys are born for every 100 girls. The actual replacement level will vary slightly from country to country, depending on child mortality rates. In countries with high child mortality, the total fertility rate will need to be higher than 2.1 births per woman to achieve replacement level.

### **Total fertility rate**

The total fertility rate is the average number of live births that a woman would have during her life if she experienced the age-specific fertility rates of a given period (usually a year). It excludes the effect of mortality.

## **Children of this relationship**

The birth registration forms ask whether there are any other children of this relationship. However, it is possible that children from previous relationships are included. This question does not produce an accurate measure of all live births to a woman (needed for accurate measures of birth parity). For privacy reasons it is deemed unacceptable to ask women about children outside their current relationship.

## **Standardised death rates**

The overall death rate that would have prevailed in a standard population if it had experienced the age-specific (usually age-and-sex-specific) death rates of the population or area being studied. In this Hot Off The Press, the age and sex distribution of the mean estimated population for the year ended 31 December 1961 is used to derive standardised death rates.

## **Life tables**

A life table provides a detailed description of the mortality experience prevailing in a population during a given period. It comprises an array of measures, including probabilities of death, probabilities of survival and life expectancies at various ages. Details, including life tables for subnational areas, and the life tables methodology are included in the [New Zealand Life Tables: 2005–2007 report](#), released in May 2009.

## **Demographic rates**

Demographic rates from 1991 onwards are calculated using the mean estimated resident population. Rates before 1991 are calculated using the mean estimated de facto population.

## **Rounding**

Birth and death figures contained in the tables attached to this release are unrounded. All other figures have been rounded. This may result in a total differing slightly from the sum of its components. Derived figures (for example percentage annual increase) have been calculated using unrounded data.

## **More information**

For more information, follow the [link](#) from the 'Technical notes' of this release on the Statistics NZ website.

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## **Timing**

Timed statistical releases are delivered using postal and electronic services provided by third parties. Delivery of these releases may be delayed by circumstances outside the control of Statistics NZ. Statistics NZ accepts no responsibility for any such delays.

## Tables

The following tables are printed with this Hot Off The Press and can also be downloaded from the Statistics New Zealand website in Excel format. If you do not have access to Excel, you may use the [Excel file viewer](#) to view, print and export the contents of the file.

1. Births, deaths, and selected rates, 1993–2009
2. Live births by regional council, 1996–2009
3. Deaths by regional council, 1996–2009
4. Age-specific fertility rates, 1993–2009
5. Live births by mother's age, 1993–2009
6. Deaths by age and sex, September year 2009