

Statistical standard for population terms

Rationale

Historically, population data comprised counts of all people present in a given area at a given time. However, increased geographic mobility means people are more likely to move between New Zealand and overseas, and between areas of New Zealand, for work, study and holidays. There is, therefore, a need for population data about the people who usually live in an area at a given time, as this is more relevant for many planning purposes (for example, housing and schools).

There are three main population measures produced by Statistics New Zealand:

1. census night population count
2. census usually resident population count
3. estimated resident population.

It is important that users are aware which population measure has been used when comparing data from different sources.

The purpose of this standard is to explain the differences between the three main population measures so that population data will be easier to understand. Previously, no standard terminology or definitions existed for these population measures. Also, because the concepts overlap and are complex, the comparability of the different population measures has not been well understood.

Census night population count

Definition

The **census night population count** of New Zealand is a count of all people present in New Zealand on a given census night. This count *includes* visitors from overseas who are counted on census night, but *excludes* residents who are temporarily overseas on census night.

Terms such as 'visitor from overseas', 'resident' and 'resident temporarily overseas' are defined under the heading Glossary.

Operational issues

Subnational counts

The census night population count of an area in New Zealand is a count of all people present in that area on a given census night. This count *includes* visitors from elsewhere in New Zealand and visitors from overseas who are counted in that area on census night, but *excludes* residents of that area who are temporarily elsewhere in New Zealand or overseas on census night.

The term 'subnational' is defined under the heading Glossary.

Example

The census night population count of the Auckland Region includes all people present and counted in Auckland Region on census night. It includes residents present, visitors from elsewhere in New Zealand and visitors from overseas. It excludes people who usually live in Auckland Region but were not in Auckland Region on census night.

Use of this term

The term 'census night population count' has been so worded to:

- clarify its source as a census count, and
- differentiate this population measure from the other two main population measures.

When *presenting* data, the full standard term must be used. For example "the census night population count of New Zealand at 6 March 2001 was 3,820,749".

The term 'census night population' is not to be used when presenting data, as it does not specify whether the data is a count or an estimate (see 'de facto population concept' under the heading Glossary).

Explanatory notes

Inclusions

- Residents present and counted by census.
- Visitors from elsewhere in New Zealand present and counted by census (for subnational counts).
- Visitors from overseas present and counted by census.

Exclusions

- Residents temporarily elsewhere in New Zealand (for subnational counts).
- Residents temporarily overseas.

Quality note

There are some people who are in New Zealand on a given census night who are not counted by the census (for example, those who do not fill in a census form). No adjustment is made to the census night population count for those missed who were intended to have been counted.

Specifically, the census night population count is as at midnight on a given census night.

Census usually resident population count

Definition

The **census usually resident population count** of New Zealand is a count of all people who usually live, and are present, in New Zealand on a given census night. This count *excludes* visitors from overseas and *excludes* residents who are temporarily overseas on census night.

Terms such as 'usual residence' and 'resident' are defined under the heading Glossary.

Operational issues

Residents are counted at the meshblock (smallest geographic area for statistical purposes) of their usual address. Those who

are temporarily elsewhere in New Zealand on a given census night are included in the meshblock they usually live in.

If insufficient information about a person's usual address is given, then the geographic information that is available (for example an area unit, territorial authority, regional council or 'in New Zealand') is used to select (impute) a meshblock within that area.

For the purposes of the 2001 Census, people of no fixed abode were counted as usually living in the meshblock where they were counted on census night.

The terms 'meshblock', 'area unit', 'territorial authority', 'regional council' and 'imputation' are defined under the heading Glossary.

Subnational counts

The census usually resident population count of an area in New Zealand is a count of all people who usually live in that area and are present in New Zealand on a given census night. This count *excludes* visitors from overseas, visitors from elsewhere in New Zealand, and residents temporarily overseas on census night.

Example

A person who usually lives in Christchurch City but was in Wellington City on a given census night will be *included* in the census usually resident population count of Christchurch City and the census night population count of Wellington City. They will be *excluded* from the census night population count of Christchurch City and the census usually resident population count of Wellington City.

Use of this term

The term 'census usually resident population count' has been so worded to:

- clarify its source as a census count, and
- to differentiate this population measure from the other two main population measures.

When *presenting* data, the full standard term must be used. For example, "the census usually resident population count of New Zealand at 6 March 2001 was 3,737,280".

The terms 'usually resident population' and 'resident population' are not to be used when presenting data, as they do not specify whether the data is a count or an estimate of the resident population concept. This will help prevent the census usually resident population count being confused with the estimated resident population.

Explanatory notes

Inclusions

- Residents present and counted by census.
- Residents temporarily elsewhere in New Zealand and counted by the census are included at the meshblock of their usual address (for subnational counts). Where a usual address is not specified, a meshblock of usual residence is imputed (see 'imputation' in Glossary).

Exclusions

- Residents temporarily overseas.
- Visitors from elsewhere in New Zealand (for subnational counts).
- Visitors from overseas.

Quality note

There are some people who usually live, and are present, in New Zealand on a given census night who are not counted by census (for example, those who do not fill in a census form). No adjustment is made to the census usually resident population count for those missed who were intended to have been counted.

Specifically, the census usually resident population count is as at midnight on a given census night.

Estimated resident population

Definition

The **estimated resident population** of New Zealand is an estimate of all people who usually live in New Zealand at a given date. This estimate *includes* all residents present in New Zealand and counted by the census (census usually resident population count), residents who are temporarily overseas (who are not included in the census), and an adjustment for residents missed or counted more than once by the census (net census undercount). Visitors from overseas are *excluded*. The estimated resident population at a given date after a census also *includes* an update for births, deaths and net migration (arrivals less departures) of residents during the period between census night and the given date.

The census usually resident population count of New Zealand at a given census date is used to derive the base population for post-censal population estimates (see Operational Issues).

Terms such as 'estimate', 'net census undercount', 'resident', 'usual residence' and 'base population' are defined under the heading Glossary.

Operational issues

The estimated resident population of New Zealand at a given date after a census is derived by updating the census usually resident population count for:

1. estimated net census undercount, as measured by a post-enumeration survey
2. the estimated number of residents temporarily overseas on census night, using external migration data and census information on absentees overseas
3. natural increase (births less deaths) between census night and the date of the estimate, using birth and death registrations
4. net migration (arrivals less departures) between census night and the date of the estimate, using passenger cards

completed by external migrants.

The terms 'post-enumeration survey', 'absentee', 'natural increase' and 'migration' are defined under the heading Glossary. For information on external migration statistics, refer to the term 'resident'.

Subnational estimates

The estimated resident population of an area in New Zealand is an estimate of all people who usually live in that area at a given date. This estimate *includes* all residents of that area present in New Zealand and counted by the census (census usually resident population count), residents who are temporarily overseas (who are not included in the census), and an adjustment for residents missed or counted more than once by the census (net census undercount). Visitors from elsewhere in New Zealand or from overseas are *excluded*.

The estimated resident population of an area in New Zealand at a given date after a census also includes an update for births, deaths and net migration of residents of that area during the period between the census date and the given date.

Frequency of population estimates

National population estimates are produced quarterly (reference dates at 31 March, 30 June, 30 September and 31 December) and subnational population estimates are produced annually (reference date at 30 June).

Population projections

The estimated resident population forms the base for all population projections produced by Statistics New Zealand. For example, the base population for all 2001-base national and subnational population projections is the estimated resident population at 30 June 2001.

Use of this term

The term 'estimated resident population' has been so worded to:

- clarify its source as a demographic estimate, and
- differentiate this population measure from the other two main population measures.

When *presenting* data, the full standard term must be used. For example, "the estimated resident population of New Zealand at 30 June 2001 was 3,880,500".

The terms 'resident population' and 'usually resident population' are not to be used when presenting data, as they do not specify whether the data is a count or an estimate of the resident population concept. This will help prevent the estimated resident population being confused with the census usually resident population count.

Explanatory notes

Inclusions

- Residents present and counted by census.
- Residents temporarily elsewhere in New Zealand and counted by census are included at the meshblock of their usual address (for subnational estimates). Where a usual address is not specified, a meshblock of usual residence is imputed (see 'imputation' in Glossary).
- Residents temporarily overseas.
- Residents who were present in New Zealand but not counted by census: net adjustment for estimated undercount (those missed by census) less estimated overcount (those counted more than once by census).

Exclusions

- Visitors from elsewhere in New Zealand (for subnational estimates).
- Visitors from overseas.

Quality note

The estimated resident population at a date after the census uses data from a wide range of sources, including administrative data collected by organisations other than Statistics New Zealand. This data is not solely collected for statistical analysis; it may not be subject to the same rigorous quality checks, and may be subject to a degree of error depending on the coverage and quality of the information collected.

Specifically, the estimated resident population is as at midnight of the reference date.

Summary table of population measures

Inclusions and exclusions

The following table summarises the inclusions and exclusions of each population measure for an area in New Zealand on census night.

Group	Census night population count	Census usually resident population count	Estimated resident population ⁽¹⁾
Residents who are present	Yes	Yes	Yes
Residents who are temporarily elsewhere in New Zealand	No	Yes	Yes
Residents who are temporarily overseas	No	No	Yes
Visitors from	Yes	No	No

elsewhere in New Zealand			
Visitors from overseas	Yes	No	No

(1) Usually includes an adjustment for net census undercount of residents. For a given date after census, the estimated resident population is updated for births, deaths and net migration (arrivals less departures) of residents during the period between census night and the given date.

Output

Standard output

Standard output for the three main population terms relates to use of the standard terms and definitions. There is no classification of population.

Standard terms must be used correctly in all output to enhance understanding of the concepts, to promote the use of standard terms and definitions, and to increase user understanding of official statistics.

It is important that users are aware of the differences between the three main population measures. The conceptual base should be readily apparent (de facto versus resident population concept; count versus estimate).

Guidelines for use

The following guidelines assist users to better understand population data.

1. Whenever population data is published, the full standard term must be used, within a table or graph heading, footnote, or header/footer. This technical information prevents the data from being misleading if it is used in isolation from the rest of the publication.
 2. When writing about data, each section of text (at the bare minimum, each page) is to refer to the full standard term. This technical information prevents the data from being misleading if it is used in isolation from the rest of the publication.
 3. The former, non-standard terms 'census night population', 'usually resident population' and 'resident population' are not to be used when presenting data.
 4. After the standard term has been given, general words or phrases may be used: for example, 'these people', or 'residents' or those who 'usually live in New Zealand'.
- These refer generally to the subject population, but do not contain any detailed technical information. They are sufficiently broad terms that are unlikely to be used instead of the standard terms, and are only suitable for use alongside the standard term.
5. Any publication of population data is to be accompanied by the Standard Definition. It should preferably also specify the Inclusions, Exclusions and Quality note.
 6. Responses to ad hoc requests for population data must refer to the population measure. For example, a footnote may state 'Based on the census usually resident population count, 2001 Census'.
 7. External users may benefit from a written explanation about the data they are receiving, via a paper or electronic copy of the overview, fact sheet or this statistical standard. This is to eliminate confusion over the differences between the measures, so users can choose the most appropriate measure for their needs.
 8. The standard term is to be used in its entirety. It may not be shortened or split.
 9. When subgrouping data, that is, analysing characteristics about a group of the population (for example: people of Māori ethnicity; or those aged under 15 years; or a geographic area), the following format is suggested to avoid splitting the standard term: 'census usually resident population count for xyz'.
 10. A term such as 'Māori ethnic group population' does not specify whether the data is a count or an estimate of people of Māori ethnicity. Therefore the following formats are suggested:
 - census usually resident population count of Māori ethnicity
 - census usually resident population count for people of Pacific ethnicities
 - European ethnicities census usually resident population count

Note: "Māori ethnicity" is singular as it comprises one ethnicity. All other ethnic groups are plural, as they are comprised of *many* ethnicities grouped together.

These terms are worded to specify the population measure. This is because the census counts may undercount the number of people identifying their ethnicity (or ethnicities), firstly because of people missed by the census, and secondly because of people counted by the census who do not respond to the ethnicity question.

The 'Guidelines for Use of Standard for Population Terms' document has more detail on writing about population.

Related classifications and standards

New Zealand

Standard for usual residence (1999)

- The standard for usual residence affects the census usually resident population count and the estimated resident population.
- By definition, each respondent can only have one usual residence.
- The term 'usual' must be included in the questionnaire module to make it clear that a usual residence is required.
- Guidelines for identifying a respondent's usual residence are given (see 'usual residence' in Glossary).

International

The standard population terms are comparable to the terms used by the Australian Bureau of Statistics (ABS). Their terms are not officially standard, but have been in use mostly unchanged since 1976.

Statistics New Zealand

Statistics

census night population count
census usually resident population count
estimated resident population

Australian Bureau of

census counts by place of enumeration
census counts by place of usual residence
estimated resident population

Statistics NZ outputs most census data based on the census usually resident population count.

ABS outputs most census data based on census counts by place of enumeration. The 2001 Census is the first in which place of usual residence counts are available down to the Collection District level (a Collection District is approximately 225 households).

United Nations Statistical Division

There are no international standards for collecting population data. However, the UN has surveyed 163 countries or areas for their practices regarding collection of population data based on the de facto and/or de jure concepts (see Glossary). Sixty-seven used the de jure (resident) population concept, 68 used the de facto population concept and 28 used other concepts, mainly a combination of de facto and de jure population concepts (New Zealand collects both).

Glossary

Absentee

In census statistics, an absentee is a person who is identified on the census dwelling form as usually living in a particular dwelling but who did not complete a census individual form at that dwelling because they were elsewhere in New Zealand or overseas at the time of the census.

The 2001 Census dwelling form gave the following guidelines for listing absentees:

"Count as usually living here

- children away at boarding school
- people who are away on holiday, away for work, in hospital for a short time, etc."

These people should be counted as absentees of that dwelling as, for statistical purposes, they usually live there.

"DON'T count

- university or other tertiary students who live somewhere else for most of the year." These people should not be counted as absentees of that dwelling as, for statistical purposes, they usually live elsewhere.

The person completing the census dwelling form provides information on who usually lives at that dwelling and therefore who the absentees are.

However, a person listed as an absentee on a census dwelling form may complete a census individual form elsewhere in New Zealand. That person may or may not identify themselves on the census individual form as usually living at the address of the dwelling at which they are listed as an absentee.

Responses to the 'usual address' question on the census individual form are used to compile 'usual residence' statistics. Information on absentees from the census dwelling form is used to compile family and household statistics.

Area unit

Non-administrative areas which are comprised of meshblocks. Area units aggregate to define geographic areas such as territorial authorities, regional councils, and New Zealand. At the 2001 Census there were 1,860 area units.

Base population

The starting population, usually distributed by age and sex, from which population estimates and projections are derived. The base population for all 2001-base national and subnational population estimates and projections is the estimated resident population at 30 June 2001.

Census of Population and Dwellings

The five-yearly Census of Population and Dwellings is the official count of population and dwellings in New Zealand, providing a snapshot of society at a point in time.

The 2001 Census of Population and Dwellings was taken on Tuesday 6 March 2001, and the official time for the census to be taken was midnight of that day.

Statistics New Zealand conducts censuses for economic statistics; therefore, population data should reference the Census of Population and Dwellings in full.

For more information, please contact the Project Manager, Population Statistics.

De facto population concept

A statistical basis for a population in terms of those present in a given area at a given time. The 'census night population count' is a census measure, and the 'estimated de facto population' is a demographic measure, of the de facto population concept.

Estimate (population)

Population estimates are produced using data from the most recent Census of Population and Dwellings, updated for estimates of the components of demographic change (births, deaths, and net migration) since that last census.

Population estimates based on the resident population concept include adjustments for net census undercount and residents temporarily overseas. National population estimates are produced quarterly (reference dates at 31 March, 30 June, 30 September and 31 December) from 1991, and subnational population estimates are produced annually (reference date at 30 June) from 1996.

Population estimates based on the de facto population concept are no longer produced. The estimated de facto population made no adjustments for net census undercount or residents temporarily overseas. National population estimates were produced annually (reference date at 31 December) from 1936 to 1950 and quarterly (reference dates at 31 March, 30 June, 30 September and 31 December) from March 1951 to June 1997. Subnational population estimates were produced annually (reference date at 31 March) to 1995.

Imputation

The replacement of missing information with what is expected to be true information.

The 2001 Census asked for the address that the respondent usually lived at on census night, so they could be counted in the meshblock in which they usually lived. If the address information supplied by the respondent did not give enough detail to match to a meshblock, it was imputed.

The imputation process used whatever level of geographic information was positively identifiable (area unit, territorial authority, regional council, or 'in New Zealand') along with information about the respondent's income, age, sex and ethnicity. A meshblock within the known geographic area was randomly selected, based on the distribution of people with similar characteristics living in that area.

For more information, please contact the Project Manager, Census Processes.

Migration

The movement of people from one area to another. Net migration represents the net change (arrivals less departures) in the population of an area resulting directly from migration.

Meshblock

The smallest geographic unit for which statistical data is collected by Statistics New Zealand. Meshblocks vary in size from part of a city block to large areas of rural land. Each meshblock abuts against another to cover all of New Zealand, and extending out to the 200 mile economic zone (approximately 320 kilometres). Meshblocks aggregate to build larger geographic areas, such as area units, territorial authorities, and regional councils. At the 2001 Census, there were 38,366 meshblocks in New Zealand.

Natural increase

The excess of births over deaths. When deaths exceed births, this is a negative natural increase or natural decrease.

Net census undercount

Undercount (undercoverage) is the number of people missed who were intended to have been counted. *Overcount (overcoverage)* is the number of people counted who should not have been counted, or who were counted more than once. *Net census undercount (net undercoverage)* is the difference between undercount and overcount of the census, usually expressed as a percentage of what should have been the complete count rather than as a percentage of what was counted. The 1996 and 2001 post-enumeration surveys, conducted soon after each Census of Population and Dwellings, provided estimates of undercount, overcount and net census undercount.

For more information, please contact the Demography Division.

New Zealand

For statistical purposes, the term 'New Zealand' refers to geographic New Zealand. In addition to North, South, Stewart and Chatham Islands, this includes offshore islands such as: Kermadec Islands, Three Kings Islands, Mayor Island, Motiti Island, White Island, Moutohora Island, Bounty Islands, Snares Islands, Antipodes Islands, Auckland Islands and Campbell Island. This does not include the Cook Islands, Niue or the Tokelau Islands. For the 2001 Census, people on ships in New Zealand waters and on the Taranaki and Southland oil rigs were included.

Post-enumeration survey

A sample survey to check the accuracy of coverage and/or response of another census or survey (for example the Census of Population and Dwellings).

For more information, please contact the Demography Division.

Regional council

A regional council is defined by the Local Government Commission as "A local authority having jurisdiction over a region. Its main functions are related to environmental and resource management."¹

Regional councils were established in 1989, with boundaries conforming to one or more water catchments, and giving consideration to regional communities of interest. Regional councils are defined at meshblock and area unit level, and cover every territorial authority, with the exception of the Chatham Islands Territory. However, there are eight instances where territorial authorities straddle regional council boundaries. At the 2001 Census, there were 16 regional councils in New Zealand.

Resident

A person who usually lives in an area. This is a statistical, not a legal, definition generally based on a person's self-identified usual address. The term 'resident' may be used differently in other contexts such as economic statistics.

In census statistics, a resident is a person who self-identifies on the census individual form that they usually live in an area. People overseas at census date do not complete a census form.

In external migration statistics, a resident is a person who self-identifies:

1. on the departure card that they have lived in New Zealand for 12 months or more
2. on the arrival card that they live in New Zealand and have been away from New Zealand for less than 12 months
3. on the arrival card that they intend to stay in New Zealand for 12 months or more.

Refer also to *Resident temporarily overseas and Usual residence*.

Resident population concept

A statistical basis for a population in terms of those who usually live in a given area at a given time. The 'census usually resident population count' is a census measure, and the 'estimated resident population' is a demographic measure, of the resident population concept.

Resident temporarily overseas

A person who usually lives in New Zealand but who is overseas for a period of less than 12 months.

In census statistics, a resident temporarily overseas is a person who is identified on the census dwelling form as usually living in that dwelling but who is overseas for a period of less than 12 months.

In external migration statistics, a resident temporarily overseas is a person who self-identifies on the arrival card that they live in New Zealand and have been away from New Zealand for less than 12 months.

Subnational

Geographical unit of a country, for example, area unit, territorial authority, or regional council. Their boundaries are defined for legal, administrative or statistical purposes.

Territorial authority

City and district councils, defined by aggregations of meshblocks or area units. When defining the boundaries of territorial authorities, the Local Government Commission placed considerable weight on the 'community of interest'. Most harbours and fiords, and some offshore islands, are included in territorial authority boundaries. At the 2001 Census, there were 74 territorial authorities in New Zealand.

Usual residence

This is a statistical, not a legal, definition generally based on a person's self-identified usual address. The Statistical Standard for Usual Residence (1999) states that usual residence is the address of the dwelling where a person self-identifies that they usually live, except in the specific cases listed below.

1. People who board at another residence to attend primary or secondary school, and return to their parent's(s) or guardian's(s) home for the holidays, usually reside at the address of their parent(s) or guardian(s). Post-secondary students usually reside at the address where they live while studying.
2. Children in joint custody usually reside at the place where they spend more nights, or if they spend equal amounts of time at each residence, they usually reside at the place where they are at the time of the survey.
3. People who are in rest homes, hospitals, prisons or other institutions, usually reside where they consider themselves to live, and this may include the institution.
4. A person whose home is on any ship, boat or vessel permanently located in any harbour shall be deemed to usually reside at the wharf or landing place (or main wharf or landing place) of the harbour.
5. A person from another country who has lived, or intends to live, in New Zealand for 12 months or more usually resides at his or her address in New Zealand (as in external migration).
6. People of no fixed abode have no usual residence.
7. People who spend equal amounts of time residing at different addresses, and can not decide which address is their usual residence, usually reside at the address they were surveyed at.
8. If none of the above guidelines apply, the person usually resides at the address he or she was surveyed at.

Some or all of these guidelines may be included in the help notes of a questionnaire to assist respondents who have difficulty selecting one usual address. Most people do not have difficulty with this, and therefore the above guidelines are over-ruled by self-identification of one usual address.

For the purposes of the 2001 Census, people of no fixed abode were counted as usually living in the meshblock where they were counted on census night.

Visitor

A person who usually lives elsewhere. This is a statistical, not a legal, definition generally based on a person's self-identified usual address.

Visitor from overseas (overseas visitor)

A person who usually lives overseas. This is a statistical, not a legal, definition generally based on a person's self-identified usual address.

In census statistics, a visitor from overseas is a person who self-identifies on the census individual form that they usually live overseas.

In external migration statistics, a visitor from overseas is a person who self-identifies on the arrival card that they intend to stay in New Zealand for a period of less than 12 months.

References

New Zealand Local Government Commission (2002) "Glossary" in "Guidelines" (6 September 2002)

New Zealand Standard Areas Classification (1992) Department of Statistics, Wellington

Statistics New Zealand (2001) *Definitions and Questionnaires* (6 September 2002)

Statistics New Zealand *Demographic Trends* (6 September 2002)