



## **Guidelines for Using Ethnicity Data: 2006 Census.**



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## **Preface**

This paper provides good practice guidelines for users of ethnicity data from the 2006 Census following implementation of the 2005 ethnicity standard.

Census 2006 used the 2005 ethnicity statistical standard which enables, among other things, the separate classification of New Zealander responses. There was a significant increase in the number of 'New Zealander' responses to the ethnicity question from previous censuses.

The 2005 standard is being phased in across official statistics over the next two years, requiring output changes and the separate categorisation of New Zealander responses

For these two reasons there is currently a dissimilar pattern of New Zealander response evident across ethnic statistics sourced from other official surveys and administrative databases. This paper outlines treatment of ethnic data, through examples of a range of typical uses of ethnic data, to address data inconsistencies

This report has been compiled by Jo-anne Allan in conjunction with colleagues from the Social and Population Statistics Group, and Standards and Methods Section of Statistics New Zealand. The guidelines are based on the business of Statistics New Zealand and have been devised in consultation with other ethnicity data users.

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## Summary of guidelines

### 1.0 Production of rates and ratios that use 2006 Census ethnicity data or estimates in the denominator

*1.1 The European and Other Ethnicity groupings from Level 1 of the 2006 Census output should be combined to form a 'European or Other Ethnicity (including New Zealander)' group.*

This combined group is to be used as a denominator in ratios or rates when the collection used as the numerator is inconsistent with the proportions in census for these ethnic groupings. The combined group requires those with both European and Other Ethnicity to be counted as one response in this combined group. When using this combined group the inclusion of New Zealanders is to be made explicit in tables and documentation. For example, European or Other Ethnicity (including New Zealander). When using the combined group of European or Other Ethnicity (including New Zealander) as a denominator in time series or other situations, it is recommended to continue that practice with the numerator for consistency sake.

### 2.0 Production of estimates

*2.1 A combined group 'European or Other Ethnicity' should be used for population estimates at the 30 June 2006 reference date.*

When this combined group is used for estimates, the inclusion of New Zealander responses will be clearly stated in titling and documentation. Separate estimates for the European grouping and the Other Ethnicity grouping at the 30 June 2006 reference date will be available on request. The current practice of providing intercensal population estimates for Māori will continue.

### 3.0 Ethnic projections

*3.1 A combined group of 'European or Other Ethnicity' groupings should be used for providing population projections.*

Population projections of this combined group will use grouped total responses, counting one response for those respondents in both groupings; the 'Other' ethnicities making up the Other Ethnicity grouping, would be left in the combined group because they are small in number (1490 responses) as New Zealander responses (429,429) make up 99.7 percent of the Other Ethnicity category; and it is made explicit in documentation that this group contained New Zealander responses.

### 4.0 Time series

*4.1 When the 2005 ethnicity standard is implemented estimates of the resulting discontinuity in time series should be estimated either by back casting the new data in the time series or by dual coding and outputting two series at least once.*

Providing some estimates either through back-casting or by dual coding enables users to understand the effect of the change in the standard and classification.

## **5.0 Census data and population estimates in sample survey design**

*5.1 If being a New Zealander has an effect on what is being measured, then the sample balance of New Zealanders would need to be similar to that of the population. In this circumstance the survey needs to follow the guidelines as for estimates by using the combined European or Other Ethnicity grouping in sample survey design.*

Otherwise it is not unduly concerning if response rates for New Zealanders are different between the 2006 Census and a survey.

*5.2 In sample survey design calibration of New Zealander responses to the 2006 Census totals is not advised.*

*5.3 The recommended output of Level 1 ethnic groupings, when there is insufficient data for standard output, is to output those ethnic groupings with sufficient data and of interest as well as outputting the specified total population.*

Residual categories are a standard part of output, for example, don't know and unidentifiable, and are often grouped together. Where there are ethnic groupings without sufficient data for output they are not included in this residual category but are represented in the total population category. A footnote, data dictionary or accompanying text should state what categories are in the residuals output group. An example of output would be: European, Māori, Total Population, and Not Elsewhere Included.

## **6.0 Customised 2006 Census data**

*6.1 Continue the practise of supplying official statistics agencies with customised or prioritised ethnicity data, for the time being, as implementation of the 2005 Ethnicity Standard is incomplete for many official statistics agencies.*

## Background

An updated standard for ethnicity statistics, for use across government, was introduced by Statistics NZ in 2005. It made some changes to the way ethnicity data are captured and classified. The most important changes were the reclassification of New Zealander responses; the expansion of the major output categories; and discontinuation of the practice of prioritising ethnicity responses for output when more than one response was given.

New Zealander responses were moved from the New Zealand European category in the 'European' grouping to a new level 1 grouping 'Other Ethnicity'. These responses are classified as a distinct category at level 4 of the standard ethnicity classification.

Two standard forms of output have been recommended: total responses for each ethnic group, or single combination output. Single and combination output places each person in one category, either a single ethnicity response group or a combination group for multiple ethnicity responses. A prioritised output method was made obsolete to ensure consistency in measurement of ethnic groups. Prioritisation decreases counts for some ethnic groupings, especially the Pacific Peoples grouping. Prioritisation does not align with the concept of self identification used for ethnicity measurement.

At the first level of the classification the creation of the Other Ethnicity grouping has raised the number of output groups from 5 to 6. The 'Other ethnic group' in the previous standard was renamed 'Middle Eastern, Latin American and African' (MELAA) to improve visibility of the very different ethnicity groups within this grouping.

Ethnicity statistics have evolved over the past 20 years reflecting changes in the demographic fabric of New Zealand society. The changes introduced in the 2005 ethnicity standard were considered to preserve the historical comparability of the statistics, while reflecting contemporary change. Statistical measurement of ethnicity has always been challenging because there is a significant degree of subjectivity and complexity involved. The challenges have been increasing, in part as inter-marriage between ethnicity groups has increased, also from changing migration composition and community attitudes (Callister et al, 2005; Howard and Didham, 2005). Consequently, there has been growing ethnic mobility or changing ethnic identity over time, and movement in ethnicity identification between different collections of ethnicity statistics because of different contexts and measurement instruments, which poses problems for consistent statistical classification measurement. Changes to the standard over time have sought to maintain the integrity of the classification, particularly in regard to its prime purpose of identifying Māori and other ethnic groups of public policy interest.

The main changes in ethnicity data from the 2006 Census include a decrease in the European grouping and an increase in the Asian and Other Ethnicity groupings. These changes were not due to a different collection format as the 2006 Census employed the same ethnicity question as that used in 2001. A heightened New Zealander response increased the total population proportion of the Other Ethnicity grouping and diminished the proportion of the European grouping. Increases in the Asian grouping occurred because of greater levels of migration from China, India, and other Asian countries.

Increases in the level of New Zealander response have been evident over the past three censuses. The level in 2006 was higher than the trend would have indicated, demonstrating the

more fluid nature of self-identification of ethnic identity and the influence that context and public debate has on the pattern of response.

### **Impact on level 1 of the ethnicity classification**

Most public policy uses of official ethnicity statistics employ the first level of the classification, which comprises six categories, namely; European, Māori, Pacific Peoples, Asian, Middle Eastern/Latin American/African (MELAA) and Other Ethnicity. The impact of the heightened New Zealander response in the 2006 Census has been to significantly reduce the European grouping, through declining numbers in the New Zealand European category, and to generate a large number of responses in the new Other Ethnicity grouping (Statistics New Zealand, 2007). The population proportions for the major ethnic groupings in 2006 were: European 67.5 percent; Māori 14.6 percent; Pacific Peoples 6.9 percent; Asian 9.2 percent; MELAA 0.9 percent; and Other Ethnicity 11.2 percent. There was a decrease in the New Zealand European category from 2,696,724 in 2001, to 2,381,076 in 2006 with the reclassification of New Zealander responses to Other Ethnicity. Some ethnic groups may also have been affected by people changing their identification to New Zealander in the 2006 Census, from another response in previous censuses. However, these changes appear to have been insignificant as estimates at 30 June 2006, based on 2006 Census, are broadly in line with 2001-base national ethnic population projections.

New Zealander response levels in other official ethnicity data collections during the same period did not match those of the 2006 Census (Appendix 1). Other collections are usually not as susceptible as the census to external influences, such as the public debate about New Zealander identification preceding the 2006 Census.

Not all collections were using the 2005 ethnicity standard at the time of the 2006 Census. The number of people reporting New Zealander responses in these surveys and administrative datasets will become visible once the 2005 standard is fully implemented. Also affecting response pattern is the dissimilar reporting populations across the different collections, for example, there are age differences in birth data in comparison with death statistics.

2006 Census ethnicity statistics relating to Māori, Pacific Peoples, Asian and MELAA groupings are considered to be sufficiently robust and consistent in their current form in their use in compiling statistics. However, some caution needs to be exercised in the use of the European and Other Ethnicity groupings.

The 2005 ethnicity standard advised that the New Zealander response category could be recombined in the European grouping in order to construct statistics that maintain historic comparability. Although this is not strictly conceptually correct, this is a common and accepted practice in this type of situation, where a classification is undergoing elaboration, and allows for a period of overlap between two apparently disjoint series. This recommendation is amended in these guidelines so as to be less complex and to enable a more pragmatic approach.

In the interim, over the period of implementing the 2005 ethnicity standard across official statistics, it is proposed that the total Other Ethnicity grouping, not just New Zealander responses, be combined with the European grouping for use in official statistics. Combining European and Other Ethnicity groupings requires those with both European and Other Ethnicity responses to be counted once in the combined group. There are very few ethnicities, on a population scale, in Other Ethnicity that are not New Zealander responses, and this practice will

have negligible impact for the total population. Consequently, this combined group, although similar to the 1996 standard European group, is not exactly the same.

Statistics NZ recommends that this principle be applied to several identified situations that may pose problems for statistical use of the data until the standard is fully implemented across government, namely:

- as a denominator in the production of rates and ratios
- compilation of ethnic-specific population estimates and projections
- use of census ethnic statistics in survey sample design
- presentation of ethnic statistics in public forums and the media.

These situations, including reconciliation of time series, and options for managing them are discussed in more detail in subsequent chapters.

## Guidelines in full

### **1.0 Production of rates and ratios that use 2006 Census ethnicity data or estimates in the denominator**

One use of census ethnicity statistics or estimates is as a denominator in rates and ratios that use ethnicity data from other sources for the numerator. For example, in mortality statistics, ethnic-specific death rates can be constructed using census data in the denominator and death registration data in the numerator. In order to produce a statistically robust rate or ratio, the numerator and the denominator need to refer to a common population measured in a consistent way.

The 2006 Census ethnicity data for 'European' and 'Other Ethnicity' high level categories are not suitable to be used as denominators with other collections because of the differences in response pattern.

#### *Denominator options considered for 2006 Census ethnicity data*

- 1) Use the 2006 data unchanged as denominators for rates
- 2) Use the 2001 data in the 2006 classification as denominators for rates
- 3) use the 2006 data with a combined group of 'European or Other Ethnicity'.

Option 1 was considered to introduce bias into any rates as counts of New Zealander responses in collections other than 2006 Census are less than two percent, compared with 11.1 percent in the 2006 Census. Option 2 was seen as more complex for users, would involve a cost to have data customised; introduces bias as it does not provide for the increased populations in Māori, Pacific Peoples and Asian groupings since 2001 and also contradicts the principle of consistent numerator and denominator. Option 3 was seen as a pragmatic approach that would be less complex, would follow the previous standard and would provide collections, where the proportion of the population in the Other Ethnicity grouping is low, with more robust denominators. Responses other than New Zealander in the Other Ethnicity grouping number 1494. When using population totals this number will have a negligible impact on statistics produced. This option is combining the two groups and needs to stipulate this, expressly that New Zealander responses are included within it. It is also affected by the same concerns as described in the time series section (4.0).

**1.1** *The recommendation is that the European and Other Ethnicity groupings from the 2006 Census output are combined to form a 'European or Other Ethnicity (including New Zealander)' group. This combined group is to be used as a denominator in ratios or rates when the collection used as the numerator is inconsistent with the proportions in census for these ethnic groupings.*

When using this combined group the inclusion of New Zealanders is to be made explicit in all tables and documentation, for example, European or Other Ethnicity (including New Zealander). It is recommended when using the combined group of European or Other Ethnicity (including New Zealander) as a denominator in time series or other situations, to continue that practice with the numerator for consistency sake. Combining European and Other Ethnicity groupings requires those with both European and Other Ethnicity responses to be counted once in the combined group.

## **2.0 Production of population estimates**

Population estimates are based on census data, administrative data, births and deaths registrations, and migration data. Important uses of population estimates include use as a denominator in the calculation of rates and as benchmarks for social survey estimates. Population estimates for major ethnic groupings are produced by Statistics NZ for 30 June (reference date) for each census year and will be produced again for 2006. In non-census years, ethnic population estimates are published only for Māori, and Māori appear not to be affected by changes in the 2006 Census ethnicity data.

Estimates at the June 2006 base are able to be provided for Māori, Pacific Peoples, Asian and MELAA groupings. Although, estimates can be calculated separately for European and Other Ethnicity at the June 2006 base, they will reflect the high proportion of New Zealander response in the 2006 Census. The lack of comparability of European and Other Ethnicity with collections other than the 2006 Census suggests that the separate estimates will be of limited use and may be misleading if inappropriately used as denominators.

Intercensal estimates of ethnic groups other than Māori are not produced, largely because the lack of ethnic migration data introduces a high level of uncertainty. For the European, and Other Ethnicity groupings this uncertainty is increased because the birth and death registrations, the other elements of population change, are not comparable with the 2006 Census population base.

### *Options for producing estimates*

- 1) No estimates for the European grouping or the Other Ethnicity grouping
- 2) Separate estimates for European grouping and the Other Ethnicity grouping
- 3) Use a combined group of European or Other Ethnicity

Option 1 is not preferred because in the absence of official estimates there is a risk of information estimates being calculated incorrectly. Also, there is user demand for estimates for the European grouping in the previous ethnicity standard (1996). Although estimates can be calculated for Option 2 using the June 2006 population base, it was deemed as less robust and potentially misleading because other collections have a much lower proportion of the Other Ethnicity grouping. Those who wish to use separate categories may refer to census outputs. The most meaningful and consistent use of data for estimates for users is seen to be a combined group of European and Other Ethnicity (including New Zealander), option 3.

*2.1 The recommendation is that a combined group 'European or Other Ethnicity' is used for population estimates at the 30 June 2006 reference date.*

When this combined group is used for estimates, the inclusion of New Zealander responses will be clearly stated in titling and documentation. Separate estimates for the European grouping and the Other Ethnicity grouping at the 30 June 2006 reference date will be available on request. The current practice of providing intercensal population estimates for Māori will continue.

### **3.0 Ethnic population projections**

Ethnic population projections provide information about the future size and composition of New Zealand's ethnic groups. They are used by central and local government, for planning purposes and as a resource for community groups. Projections are based on census data, using population estimates, and births, deaths and migration time series data. Ethnic group projections require robust measures of past and current fertility and paternity rates, mortality rates and migration levels.

There is no change for ethnic projections for Māori, Pacific Peoples and the Asian groupings.

Statistics NZ will not provide separate projections for the European, MELAA or Other Ethnicity groupings. In the case of MELAA, this is because the population is too small and historical data too limited to support derivation of fertility, mortality and migration assumptions. The very low levels of New Zealander responses in birth and death registrations relative to the 2006 Census counts means that robust assumptions for future fertility and mortality rates cannot be derived. Similarly concerns arise while births and deaths for the European ethnic group are inconsistent with the 2006 Census data. Additionally, ethnic mobility (changing ethnic identity between different collections of ethnicity statistics) apparent in New Zealand European from 2001 to 2006 adds further uncertainty to 2006 projections of the European grouping.

Population projections for the former European grouping (which included New Zealander) using a combined group of European or Other Ethnicity, draws on consistent time series for births and deaths data, used in developing projection assumptions. However, the population estimates would include the small number of ethnicities that are not New Zealander in the Other Ethnicity grouping. This would not compromise the methodology for projections because of the low counts and would give comparable time series for the former European grouping that included New Zealander.

#### *Options considered*

- 1) No projections for European and for Other Ethnicity
- 2) Projections for the European and Other Ethnicity groupings separately and
- 3) Use a combined group of European or Other Ethnicity (including New Zealander).

The option of not providing population projections for European or Other Ethnicity was not preferred because of user demand for this data. Also, in the absence of official projections there is a concern that informal projections may be calculated incorrectly. Option 2 was considered not feasible because of lack of comparability between the 2006 Census data and birth and death registrations, and higher intercensal ethnic mobility. Option three was the preferred option as it provides projections with the best confidence in the underlying demographic assumptions. This option also provides users with valuable information for policy and planning purposes using data that is closely comparable to the ethnicity standard (1996) which users are familiar with.

*3.1 The recommendation is that a combined group of 'European or Other Ethnicity' groupings will be used for providing population projections.*

Population projections of this combined group will use grouped total responses. Combining European and Other Ethnicity groupings requires those with both European and Other Ethnicity responses to be counted once in the combined group; the 'other' ethnicities making up the Other Ethnicity grouping, would be left in the combined group because they are small in number (1490 responses) as New Zealander responses (429,429) make up 99.7 percent of the Other Ethnicity

category; and documentation would make explicit that this group contained New Zealander responses.

#### **4.0 Time series**

Time series are used to show changes in data over time. The introduction of the 2005 ethnicity standard has generated a discontinuity in ethnicity information because of the increase in number of Level 1 ethnic groupings from five to six and the separate categorisation of New Zealander responses in the Other Ethnicity grouping, rather than in European. Implementation of the 2005 ethnicity standard is currently underway across official statistics with the 2006 Census using the 2005 standard.

Heightened public awareness of national and ethnic identity occurred at the time Statistics NZ began embedding the new standard. This was evidenced by the increased number of New Zealander responses in the 2006 Census but not reflected in other official statistics collections during or since that time. The increase in the New Zealander response counts in the 2006 Census has been at the expense of other ethnic groups, primarily European. Although, it is difficult to gauge the effect on other Level 1 groupings without intercensal analysis.

When maintaining a time series based on the previous ethnicity standard (1996), for within agency use, the 2005 ethnicity standard recommended adding New Zealander counts to the European grouping. Following the 2006 Census, Statistics NZ would now recommend that a combined group of European or Other Ethnicity be used. The recommended change is to account for the principle being put in place for ethnic population estimates and projections because of the magnitude of the response shift to New Zealander apparent in the 2006 Census ethnicity collection, the coding changes between the 1996 and 2005 standard classifications and the increase in multiple ethnicity of New Zealander responses in the 2006 Census. Collections other than the 2006 Census, that are separately classifying New Zealander responses are not showing similar high proportions of New Zealander (11.1 percent) but report two percent or less. As other collections implement the separate category for New Zealander this proportion may change.

Researchers considering the change in ethnicity data in the 2006 Census for time series ask: how much of the change is due to the change in the ethnicity standard; how much is due to ethnic mobility (changing ethnic identity over time or between different collections); how much reflects the inherent variability of the concept; and how much of this shift is because of an underlying change in the ethnic composition of the population? It is difficult to answer these questions fully because there is a need to separate out the effect of each of the changes.

To evaluate changes in the 2006 Census ethnicity data as a result of the use of the 2005 ethnicity standard, there is a need to analyse category classification and coding practice. The separate categorisation of New Zealander responses is at the most detailed level (4) of the classification. In the 2006 Census they made up 11.1 percent of the total specified population. The magnitude of the change in 2006 from 2001 for the New Zealand European category is a decrease of 11.7 percentage points. However, the 2001 New Zealand European category includes New Zealander counts and if these counts are excluded, the percentage point difference in New Zealand European from 2006 to 2001 is lower at 8.7.

Population factors, such as declining birth rates and an aging population, also affect the size of the European grouping. There have been some sizable increases in ethnic group categories in European, for example, British, English and Australian. Yet this has not been enough to stem

the sizable decrease in the European grouping. The classification and coding changes in the 2005 standard, causing the reduction in the New Zealand European category in the 2006 Census, from the 2001 Census, do not account for all the decrease in the European grouping in 2006. This grouping has decreased from 80 percent in 2001 to 67.6 percent of the total specified population in 2006. The increase in size of the Māori, Pacific Peoples and Asian groupings; the increase for Asian as a proportion of the total population along with Other Ethnicity, all affect the decrease in the proportion of the European population to varying degrees.

Examining ethnic mobility, primarily there has been a response shift from New Zealand European responses in the 2001 Census data to a New Zealander response in the 2006 Census. However, the response shift from New Zealand European is not accounting for all the New Zealander responses in 2006. There is the additional coding effect increasing multiple response for those responding as New Zealander in the 2006 Census. Reviewing coding practice, a former single response in the 1996 ethnicity standard is coded to two responses in the 2005 Standard. For example, a response of New Zealand Chinese was classified as a single response in the 1996 standard and as two in the 2005 standard, New Zealander and Chinese. This response would not be coded to the New Zealand European category in either of the standards. The effect of the coding change has influenced to some extent the increase in the number of New Zealander responses with multiple ethnicity responses in the 2006 Census, up from 11 percent in 2001 to 12.9 percent this census. In previous censuses, New Zealander multiple response rates have been similar to the total population, but in 2006 they are higher. Additionally, affecting the level of multiple response for New Zealander, it has become an extra affiliation for some, for example, there were responses such as South African New Zealander and New Zealand Egyptian.

An intercensal ethnic mobility study would be required to determine the effects of the change of Standard and the effect of public response shift in the 2006 data.

The Māori, Pacific Peoples, Asian and MELAA groupings are unlikely to show time series changes, with current use of either the 1996 Standard or the 2005 Standard, as these groups are within expected growth expectations. The Other grouping in the 1996 Standard was named MELAA for the 2005 Standard. Some ethnicities with very small numbers are not included with MELAA in the 2005 standard, and now are classified in the Other Ethnicity grouping along with New Zealanders. This means that the MELAA grouping equates to the old (1996) "Other".

#### *2006 Census approach to time series change*

The 2006 Census has released a new time series for ethnicity data using the 2005 standard classification. It has also produced time series that regroups ethnic categories used in previous censuses to fit the 2005 ethnicity standard used in the 2006 Census (1991–2001). See table 1 and table 2 from the Quick Stats about Culture and Identity on Statistics NZ's website under the 2006 Census heading. Footnotes are attached to the tables describing the changes in ethnic categories over time. Additional information can be found on the website, under 2006 Census, Information About Data, Information by Variable, Ethnicity.

The 2006 Census ethnicity counts have been regrouped at Level 1 in the 1996 ethnicity standard (European, Māori, Pacific Peoples, Asian and Other Ethnic Group) for users who require output based on the previous classification (Appendix 2). This is not the same as using the "combined European or Other Ethnicity group" as only New Zealander responses are regrouped with European, not the whole Other Ethnicity grouping.

*Introducing time series change in surveys and administrative datasets*

Although a discontinuous time series starts when official statistical agencies implement the 2005 ethnicity standard, several options present themselves in managing the change.

Options

- 1) producing estimates of the resulting discontinuity by back-casting the new data in the time series using the 2005 classification
- 2) producing estimates of the resulting discontinuity by outputting two series (old and new) using dual coding
- 3) merge the time series (smoothing the data).

A time series that back-casts using the 2005 ethnicity standard may be a practical consideration to understand changes in the data and become familiar with the new form. Dual coding has additional costs, is resource intensive, it takes additional space for publishing information and for these reasons it may not make it viable to produce long term. However, for some users it provides a very meaningful way of understanding any change within the series. Merging the time series through smoothing the data has less statistical merit but is user friendly in that the data is presented for most users in an easily understood form.

*4.1 The recommendation for time series is to start the new time series with the new standard and produce estimates of the resulting discontinuity either by back-casting the new data in the time series or by dual coding and outputting two series at least once.*

Providing some estimates either through back-casting or by dual coding enables users to understand the effect of the change in the standard and classification.

## **5.0 Census data and population estimates in sample survey design**

The sample design of Statistics NZ household surveys tends to be two-stage, firstly selecting geographic areas (PSUs) and then selecting households (and then people) within PSUs. The PSUs are allocated to strata according to their regional, rural/urban and ethnic characteristics. The ethnic grouping enables strata to be described as combinations of high/low Māori, Pacific or Asian with definitions of high and low derived from ethnic proportions in the latest census counts. These should not be unduly affected by changes in ethnicity data for the 2006 Census.

Each person selected in a sample is assigned a selection weight which reflects their probability of selection. Broadly speaking, this weight can be interpreted as the number of people in the population that the person 'represents'. Adjustments are made to these weights during survey processing in order to account for non-response and to allow for differences in the characteristics of eligible sample members and those of the population. One part of this weight adjustment is called 'benchmarking' whereby the weighted sum of sample members is aligned to that of the population, either to census counts or population estimates. Some surveys use ethnicity benchmarks but these are usually only for Māori, for example, the Household Economic Survey, Household Labour Force Survey (HLFS), or possibly 'Māori or Pacific Peoples', for example, the Post-Enumeration Survey.

Consequently, it is not unduly concerning if New Zealander response rates are different between the 2006 Census and the survey. It would only be an issue if being a 'New Zealander' had a different effect on what was being measured – it would then be important that the sample balance was similar to that of the population. If this is the case, then the principles used for determining estimates need to be followed, that is, combining the European or Other Ethnicity groupings ensuring those with both European and Other Ethnicity are counted as one response in this combined group.

People may respond differently to an ethnicity question in a sample survey and one posed in the census. In particular, the heightened public interest in the census may result in particular attention being paid to the ethnicity question response, whereas in a survey the focus of the respondent may be more on the survey subject matter, for example, employment in the case of HLFS. It is therefore not surprising that the proportion reporting a New Zealander response is so much lower in surveys than in the census. This does not necessarily mean that the sample is unrepresentative of the population. Calibration of New Zealander responses to the 2006 Census totals would not be advised.

Some researchers or agencies may draw a survey sample from a list-based frame, for example, an address list of participants in a particular programme. What role ethnicity may play in the sample design and what impact the new standard or the New Zealander issue may have on the sample design are likely to be unique to the aims of the survey and the ethnic information available on that specific list. It is recommended that such agencies consult Statistics NZ on any impact these issues may have on their sample designs.

*5.1 The recommendation is to use the combined European or Other Ethnicity grouping in sample survey design, if being a New Zealander has a different effect on what is being measured.*

*5.2 In sample survey design calibration of New Zealander responses to the 2006 Census totals is not advised.*

### *Survey output*

Standard output for ethnicity at Level 1 using the 2005 ethnicity standard of six output groups is European, Māori, Pacific Peoples, Asian, MELAA and Other Ethnicity. Using the previous ethnicity standard (1996) the groups were European, Māori, Pacific Peoples, Asian and Other Ethnic Group. The change to the 2005 Standard involves splitting the Other group from the 1996 standard into MELAA (Middle Eastern/Latin American/African) and Other Ethnicity. Additionally, New Zealander responses have been reclassified from the European grouping to the Other Ethnicity grouping.

Statistics NZ household and sample surveys collecting the 2005 standard have yet to reflect the same high proportion of respondents reporting a New Zealander response as did the 2006 Census. In fact these surveys have inadequate ethnicity data for some of the standard output at Level 1 for example, MELAA and Other Ethnicity.

#### Output options for surveys

- 1) standard output
- 2) standard groups with sufficient data and combine the rest into an 'other'
- 3) total population and ethnic groupings at Level 1 with sufficient data.

The use of ethnicity in describing some variables becomes problematic when there is insufficient data for output. The consideration for each survey is whether ethnicity should be used in these cases. It may be preferable to produce output only for the total population. When there is sufficient data on groups of interest but not all the standard output groups at Level 1, then outputting all groups would mean that some cells are suppressed. Combining 'ethnic groups' in a non-standard way as an output group in option 2 will be meaningless to users for comparisons of data using standard output. It may also introduce bias if comparisons are made between the output groups and the non-standard 'other' group. Option 3 offers an approach that allows groups of interest to be output as well as outputting the total population data. In this way, as much information as available and robust is given to users, it complies with standard aggregation of groups, and does not confuse users familiar with standard output groups by introducing different combined groups of 'other' for those with insufficient data.

*5.3 The recommendation for output of Level 1 ethnic groupings when there is insufficient data for standard output: is to output those ethnic groupings with sufficient data and of interest as well as outputting the specified total population.*

Residual categories are a standard part of output, for example, don't know and unidentifiable, and are often grouped together. Where there are ethnic groupings without sufficient data for output they are not included in this residual category but are represented in the Total Population category. A footnote, data dictionary or accompanying text should state what categories are in the residuals output group. An example of the preferred option output would be: European, Māori, Total Population, and Not Elsewhere Included.

## **6.0 Customised 2006 Census data**

Statistics NZ provides customised data on request when standard output does not meet users' needs. Ethnicity information may be provided in a way that does not comply with the current standard for ethnicity. When prioritised ethnicity data (multiple ethnicity is disregarded and an ethnicity is assigned by a descending order of priority, for example, Māori having first priority) is requested, information regarding the reduction of the Pacific Peoples grouping, and other Level 1 groups, is provided. Prioritised data is provided to customer specifications.

### *Options*

- 1) stop the supply of customised prioritised data as it does not conform to the 2005 ethnicity standard
- 2) supply customised prioritised data as many agencies have not implemented the 2005 ethnicity standard.

*6.1 The recommendation is to continue the practise of supplying official statistics agencies with customised or prioritised ethnicity data, for the time being, as implementation of the 2005 ethnicity standard is incomplete for many official statistics agencies.*

## References

Callister P, Didham R and Potter D (2005). "Ethnic Inter-marriage in New Zealand", Statistics New Zealand, Wellington. <http://www.stats.govt.nz/NR/rdonlyres/14E5BF11-60CF-4F97-BB3B-CD76BAEAC6CE/0/EthnicIntermarriageinNZ.pdf> 2/2/07

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Statistics New Zealand (2007). "Profile of New Zealander Responses, Ethnicity Question: 2006 Census", Statistics NZ, Wellington. <http://www.stats.govt.nz/NR/rdonlyres/EA0F8124-619C-47B3-ADB7-CBB28F44AE85/0/ProfileofNewZealanderCensus2006.pdf> 3/9/07

## **Appendix 1**

### **Vitals collections**

This section discusses differences in the 2006 Census and Vitals birth and death registrations.

#### **Birth registrations**

The Vitals national dataset for birth registrations is a useful comparison for ethnicity response in the 2006 Census. This collection uses the new ethnicity classification (ETHNIC05) classifying New Zealander responses separately for the 2006 year, as does Census 2006, and also data is available from January 2006.

Some external factors affect what is collected in birth registrations: the context is different between filling census forms and the recording of birth registration information; there is a tendency for parents to be more cautious in the way they respond to questions in registering births; a birth record is a legal document that is directly traceable to parents and has to be endorsed by birth registration staff unlike census data that is known to be confidential.

The proportion of New Zealander responses for the ethnicity of a child on registration of that birth, live births from January to September 2006, is 1.6 percent. For fathers of those children it is 1.5 percent and 1.2 percent for mothers of those children. These proportions are well below the 11.1 percent proportion of New Zealanders in the total population recorded in the census in March 2006.

Looking at birth registrations for live and still births for each month reveals an increase of New Zealander responses from January to March, followed by a decrease in subsequent months. Tables 1, 2 and 3 show that there is an increase for Other Ethnicity counts (almost entirely New Zealander responses) from January, with March showing a substantial increase. The magnitude of the increase is much less than in the census. There is an increase of 1.81 percent for mothers of births registered, 2.17 percent for fathers and 2.34 percent for children themselves.

Birth data in the 2006 June quarter shows a decline in responses in the Other Ethnicity category. This decline continues in the September and December quarter.

The 2005 Vitals data uses the 1996 ethnicity classification — this classification placed New Zealander in the European category. For comparison purposes in the following tables, the MELAA (Middle East/Latin American/African) title is used instead of 'Other' in the 2005 data, as this category contains almost all MELAA responses. In the 2006 Vitals data the category Other Ethnicity is made up almost entirely of New Zealander responses.

Table 1

**Mother's Ethnicity for births, total live and still births<sup>(1)</sup>**  
 2005 and 2006 first quarters  
 by level 1 ethnic groupings

Ethnicity of Mother	1996 Classification						2005 Classification					
	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06
Māori	1,042	1,131	1,224	1,174	1,176	1,080	1,074	1,089	1,288	951	1,318	1,188
European <sup>(4)</sup>	3,303	3,267	3,249	3,364	3,304	3,145	3,377	3,182	3,831	2,798	3,738	3,275
Pacific	515	517	590	585	608	541	526	565	632	489	621	564
Asian	508	458	444	505	526	445	521	417	498	391	489	469
MELAA <sup>(3)</sup>	74	43	69	75	66	59	74	57	65	51	80	57
Other <sup>(2)</sup>	0	0	0	0	0	0	28	37	103	80	72	70
Total births	4,875	4,801	4,982	5,087	5,080	4,735	4,981	4,708	5,675	4,202	5,553	4,948
% Other							0.56	0.79	1.81	1.90	1.30	1.41
(1) Births registered in New Zealand to mothers resident in New Zealand.												
(2) Other counts combined with MELAA in 1996 Classification for comparison with 2005 Classification												
(3) MELAA is Middle Eastern/Latin American/African												
(4) New Zealander was classified in European in the 1996 Classification												

Table 2

**Father's Ethnicity for births, total live and still births<sup>(1)</sup>**  
 2005 and 2006 first quarters  
 by level 1 ethnic groupings

Ethnicity of Father	1996 Classification						2005 Classification					
	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06
Māori	865	990	966	964	989	876	907	932	1,091	792	1,091	975
European <sup>(4)</sup>	3,114	3,031	3,044	3,125	3,103	2,895	3,074	2,898	3,448	2,534	3,381	2,936
Pacific	511	504	583	583	582	572	548	530	606	469	620	540
Asian	446	396	400	435	450	402	450	337	426	305	395	377
MELAA <sup>(3)</sup>	70	59	66	91	73	67	88	45	69	50	65	58
Other <sup>(2)</sup>	0	0	0	0	0	0	39	47	123	102	95	82
Total births	4,875	4,801	4,982	5,087	5,080	4,735	4,981	4,708	5,675	4,202	5,553	4,948
% Other							0.78	1.00	2.17	2.43	1.71	1.66
(1) Births registered in New Zealand to mothers resident in New Zealand.												
(2) Other counts combined with MELAA in 1996 Classification for comparison with 2005 Classification												
(3) MELAA is Middle Eastern/Latin American/African												
(4) New Zealander was classified in European in the 1996 Classification												

Table 3

**Child's Ethnicity for births, total live and still births<sup>(1)</sup>**  
**2005 and 2006 first quarters**  
 by level 1 ethnic groupings

Ethnicity of Child	1996 Classification						2005 Classification					
	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06
Māori	1,331	1,452	1,485	1,467	1,453	1,342	1,370	1,401	1,660	1,204	1,676	1,494
European <sup>(4)</sup>	3,461	3,396	3,422	3,542	3,471	3,265	3,546	3,363	4,003	2,948	3,907	3,428
Pacific	679	702	779	766	760	732	734	745	837	634	852	745
Asian	561	495	494	543	558	492	562	442	542	407	527	496
MELAA <sup>(3)</sup>	80	63	86	101	77	78	98	64	89	60	93	76
Other <sup>(2)</sup>	0	0	0	0	0	0	39	52	133	110	96	92
<b>Total</b>	<b>4,875</b>	<b>4,801</b>	<b>4,982</b>	<b>5,087</b>	<b>5,080</b>	<b>4,735</b>	<b>4,981</b>	<b>4,708</b>	<b>5,675</b>	<b>4,202</b>	<b>5,553</b>	<b>4,948</b>
% Other							0.78	1.10	2.34	2.62	1.73	1.86
(1) Births registered in New Zealand to mothers resident in New Zealand.												
(2) Other counts combined with MELAA in 1996 Classification for comparison with 2005 Classification												
(3) MELAA is Middle Eastern/Latin American/African												
(4) New Zealander was classified in European in the 1996 Classification												

### Death registrations

The register of deaths has officially collected New Zealander responses since January 2006. There are several influences to note in death registrations relating to ethnicity responses. These include: different collection forms being used by undertakers; 4.9 percent of deaths in the residual category for ethnicity including not stated ethnicity; and, of course, a person's preference for belonging to an ethnic group not necessarily recorded by next of kin, or those reporting death information. Also, in the population the older age group have less New Zealander responses and more often have a single ethnicity, so that death statistics are more likely to have a much lower rate of New Zealander responses than the population. Despite these limitations, the recording of deaths for the New Zealander group for the nine month period beginning January is concerning for mortality data comparisons, as the category makes up only 0.7 percent of total deaths (Table 4).

Table 4

**Deaths<sup>(1)</sup>**  
**By level 1 ethnic groupings**  
 2006 Death registrations, Jan - Sep

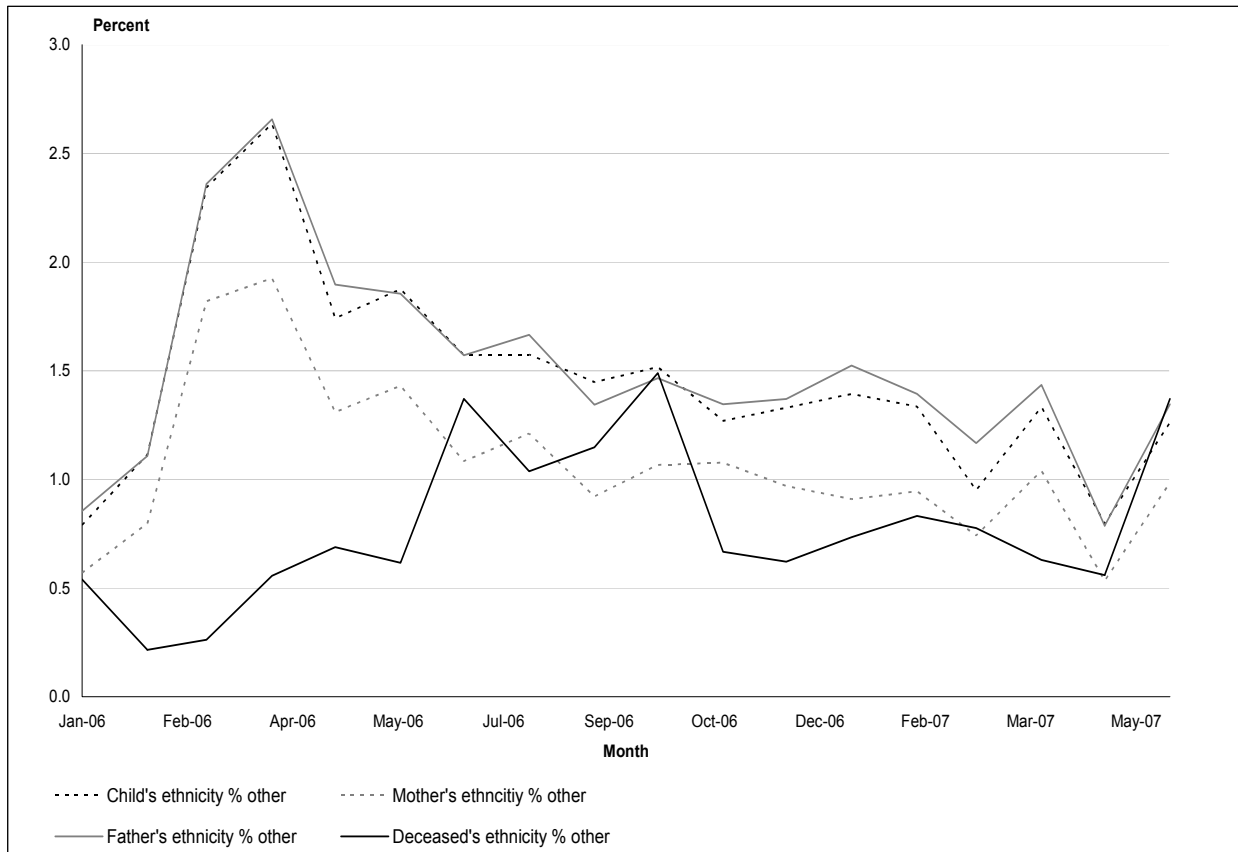
Major ethnic group									
European	Māori	Pacific Peoples	Asian	MELAA <sup>(1)</sup>	New Zealander	Other Other Ethnicity	Total Other Ethnicity	Residuals	Total
17,482	2,014	781	470	62	153	-	154	1,060	21,677

1 Deaths registered in New Zealand to people resident in New Zealand by date of registration. Late deaths are excluded.

New Zealander responses to Vital collections have continued to fall from June 2006 (figure 5), however, the proportion does remain slightly above the pre-2006 Census level. The Other Ethnicity category, used in figure 5, is made up primarily of New Zealander responses.

Figure 5

**Live births and deaths registration**  
**Other Ethnicity category**  
 January 2006 – May 2007



1 Almost all Other Ethnicity in vitals are New Zealander responses, 97 percent for births, 99 percent for deaths.

2 Live births and deaths registered in New Zealand to people resident in New Zealand by date of registration.

These findings raise the issue of disparity between the 2006 Census and the Vitals collections because of the low level of New Zealander responses in birth registrations and death notifications. Proxy reporting of ethnicity and age differences between collections impact on reporting of New Zealander responses in Vitals data. As the counts of New Zealander responses are small in Vitals, there is no requirement to use the combined group of 'European or Other Ethnicity' for time series. When Vitals data is being used as an enumerator for rates then use the combined group, 'European or Other Ethnicity'.

## Appendix 2

2006 Census ethnicity counts regrouped at Level 1 to the 1996 ethnicity standard (European, Māori, Pacific Peoples, Asian and Other Ethnic Group). Explicitly, the Other Ethnicity grouping has been split into New Zealander and Other 'Other' ethnicity; the 1996 European grouping has been reconfigured using European and New Zealander; and the 1996 Other grouping has been reconfigured using counts from Middle Eastern/Latin American/African or Other 'Other' Ethnicity.

Table 6

**Ethnic Group Counts Regrouped to 1996 Ethnicity Standard**  
*Grouped Total Responses*  
2006 Census

<i>Ethnic group</i>	<i>Number of people</i>
European	2,609,589
New Zealander	429,429
<i>European, total<sup>(1)</sup></i>	2,997,051
<i>Māori<sup>(1)</sup></i>	565,329
<i>Pacific Peoples<sup>(1)</sup></i>	265,974
<i>Asian<sup>(1)</sup></i>	354,552
Middle Eastern/Latin American/African	34,746
Other 'Other' Ethnicity	1,494
<i>Other, total<sup>(1)</sup></i>	36,171
Not Elsewhere Included	167,784
<b>Total</b>	<b>4,027,947</b>

(1) 1996 Level 1 groupings in italics